# The Nature and Limits of the Money Economy in Late Anglo-Saxon and Early Norman England

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# The Nature and Limits of the Money Economy in Late Anglo-Saxon and Early Norman England

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**Abstract**

This thesis will address a question which is fundamental to our understanding of the period: was there a money economy in Anglo-Saxon and early Norman England? This question has been asked often enough before, but currently the literature does not afford a satisfactory answer, principally because the relevant historical and numismatic evidence has never been systematically assembled and analysed. The object of my research will be to make good this gap. It will seek to establish how, by whom, and in what circumstances coins were − and were not − used in England between the reigns of King Athelstan and King Henry I (924−1135).

The thesis will build on substantial secondary literature on the early English economy. However, what this literature lacks is a comprehensive analysis of the documentary evidence which reveals how money was actually used and what it could and could not buy. One major strand of this thesis will be to examine this material systematically to demonstrate the value of monetary equivalents and small-scale transactions in the period before 1135. Secondly, there is abundant numismatic material in the form of single coin finds and coin hoards, which affords more specific evidence of how money was actually used. The other major element of my thesis will therefore be to assemble, collate and analyse this material, in order to facilitate more precise and penetrating analysis of such finds. The combination of approaches proposed here will make possible to form a more precise understanding of how money was used throughout the social spectrum of English society, from the peasantry to the upper ranks of the nobility, throughout a period of momentous political change.

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## Note on foreign-language material

Where Latin or Old English texts are quoted, I give a modern English translation in the text immediately beneath it. The editions used for quotations are either the same throughout the thesis (with a full reference for the first citation) or if different are specified in the relevant footnote. Translations have been taken from the published editions where given and have also been made by the author where no translation exists. The source of translation is specified in the footnote.

## Note on money and units of account

The major coin produced by English mints from 924 to 1135 was the silver penny (d).[1] Halfpennies and quarters (or farthings) were produced by physically dividing whole pennies into these fractions, though occasionally the mints produced round halfpennies.[2] Mints also struck gold coins but their occurrence in the corpus of numismatic material is very small, and it has been suggested that gold coins may have served special purposes such as for making payments to churches.[3]

There were several units of account in operation during this period. From the late tenth or early eleventh centuries, and in most of the documentary sources of this period, the 'shilling' (s) was valued at 12d. However, the Mercian shilling of 4d and the West-Saxon

[1] I. Stewart, 'The English and Norman Mints, *c.* 600–1158', in C. Challis (ed.), *A New History of the Royal Mint* (Cambridge, 1992), 1–82.
[2] See the section on fractions on pages 294–97.
[3] M. Blackburn, 'Gold in England During the 'Age of Silver' (Eighth-Eleventh Centuries)', in J. Graham-Campbell and G. Williams (eds.), *Silver Economy in the Viking Age* (Walnut Creek, 2007), 55–98; M. Allen, *Mints and Money in Medieval England* (Cambridge, 2012), 346–47.

shilling of 5d are also visible in legal documents and charters.[4] On this basis, I assume a shilling of 12d in this thesis unless otherwise stated. The 'pound' (£) was valued at 240d, or 20s at 12d each. A third unit of account was the 'mark', which I assume to have been valued at 13s 4d (160d), although it has been suggested that until the mid-twelfth century the mark was actually valued at 10s 8d (128d).[5] The 'mancus' was used to denote a payment of 30d, but was probably first introduced in the eighth century to describe Islamic gold coins (dinars).[6] Finally, the value and meaning of the 'ora' has been the subject of debate since oras are valued at both 16d and at 20d in Edward the Confessor's reign and in Domesday Book.[7] For the purposes of this thesis, I shall assume an ora of 16d unless otherwise specified. It should be noted that the pound, mark, mancus and ora also functioned as units of weight as well as of account and that some references may be ambiguous.

[4] R. Naismith, *Money and Power in Anglo-Saxon England: the Southern English Kingdoms, 757–865* (Cambridge, 2012), 265–67; P. Nightingale, 'The Ora, the Mark and the Mancus', *NC*, 154 (1984), ii, 234–48 at 236; R. D. Connor, *The Weights and Measures of England* (London, 1987), 104–6; Liebermann, *Gesetze*, ii, 640.

[5] See pages 156–58.

[6] Blackburn, 'Gold in England', 57–59; Naismith, *Money and Power*, 113–14; Nightingale, 'The Ora, the Mark and the Mancus', 237–38.

[7] C. S. S. Lyon, 'Some Problems in Interpreting Anglo-Saxon Coinage', *ASE*, 5 (1976), 173–224; 'Silver Weight and Minted Weight in England *c.* 1000–1320, with a Discussion of Domesday Terminology, Edwardian Farthings and the Origin of the English Troy', *BNJ*, 76 (2006), 227–41; 'Comments on Pamela Nightingale, "English Medieval Weight-Standards Revisited"', *BNJ,* 78 (2008), 194–99; P. Nightingale, 'The Ora, the Mark and the Mancus', *NC*, 153 (1983), i, 248–57; *NC*, 154 (1984), ii, 234–48; 'English Medieval Weight-Standards Revisited', *BNJ*, 78 (2008), 177–93.

## Abbreviations

| | |
|---|---|
| *ANS* | *Anglo-Norman Studies* |
| As | The laws of Athelstan |
| *ASE* | *Anglo-Saxon England* |
| *ASC* | *Anglo-Saxon Chronicle* |
| Atr | The laws of Æthelred II |
| BMCI | British Museum Card Index of Coins |
| *BNJ* | *British Numismatic Journal* |
| Cn | The laws of Cnut |
| *EcHR* | *Economic History Review* |
| Edg | The laws of Edgar |
| *EHD* | *English Historical Documents* |
| *EHR* | *English Historical Review* |
| Em | The laws of Edmund |
| EMC | Early Medieval Corpus of Coin Finds |
| *Exon* | *Liber Exoniensis* |
| GDB | Great Domesday Book |
| LDB | Little Domesday Book |

| | |
|---|---|
| *LÆ* | *Libellus Æthelwoldi Episcopi* |
| *LE* | *Liber Eliensis* |
| *LEC* | *Leges Edwardi Confessoribus* |
| *LHP* | *Leges Henrici Primi* |
| *LW* | *Leis Willelme* |
| *NC* | *Numismatic Chronicle* |
| *NCirc* | *Numismatic Circular* |
| *NPL* | *Northumbrian Priests' Law* |
| PAS | Portable Antiquities Scheme |
| PASE | Prosopography of Anglo-Saxon England |
| *PATAR* | *Portable Antiquities and Treasure Annual Report* |
| *P&P* | *Past and Present* |
| PR | *Pipe Roll* |
| *RSP* | *Rectitudines Singularum Personarum* |
| *SCBI* | *Sylloge of Coins of the British Isles* |
| *TAR* | *Treasure Annual Report* |
| *TRHS* | *Transactions of the Royal Historical Society* |

## 1. Introduction: modelling the economy, 924–1135

The aim of this chapter is to describe the principal elements of the English economy from the mid-tenth to the mid-twelfth centuries and how they changed and developed over time; to establish how wealth was created and used and by whom; and to explore the principal channels through which wealth moved. It will emerge that coins formed a significant part of the economy and that the richer elements of society – the king, the aristocracy, the church and merchants – came into contact with coins frequently. However, the extent to which coins were used by the poorer elements of society, namely the peasantry, is less clear; and since the peasantry formed the overwhelming majority of the population, establishing the extent to which they used coins is crucial to our understanding of the nature of the money economy. The remainder of the thesis will address this question.

The chronological limits of 924 and 1135 have been chosen for a number of reasons. Firstly, this choice is partly determined by the nature of the sources. The rich corpus of law codes from the reign of King Athelstan (924–39) affords detailed evidence on the values of objects and payments, as well as containing key information on coins and mints. The end date of 1135 marks the death of King Henry I (1100–35) whose reign contains precious documentary evidence of low-level economic transactions in several estate surveys, and the first surviving Pipe Roll, a document which records all the revenue due to the crown in 1130. Secondly, the reign of Athelstan marks the beginnings of England as a unified political entity, notwithstanding the fact that Scandinavians controlled parts of northern England until the middle of the tenth century. Thirdly, analysing the money economy between these dates allows for an

assessment of continuity and change over a period which saw conquests of England in 1016 and 1066.

## 1.1 The principal elements of the economy

The wealth of the early English kingdom has been elucidated by a generation of scholars, most notably by Peter Sawyer.[1] He has argued that it was England's wealth in the eleventh century which made it the target of attacks, firstly by Scandinavians and later by the Normans, rather than an inadequate system of defences. Though Sawyer argues that England had become highly urbanised by 1086, the nature of this wealth was primarily agrarian.[2] Darby's Domesday Book figures show an England which contained a high number of people and ploughs, and in 1086 it has been estimated that around 90% of the population lived and worked in the countryside.[3] The majority of this population were peasants of varying degrees of social and economic status, most of whom were 'small-scale cultivators, who possessed land, and [who] were subordinated to lords and the state'.[4] Sawyer argues that a dense population is not necessarily a prosperous one, but the fact that the Domesday commissioners took great care to record the number of ploughs (and where there could be more) suggests that arable formed the basis of wealth production in England at this time.[5]

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[1] P. Sawyer, 'The Wealth of England in the Eleventh Century', *TRHS*, 15 (1965), 145–64; and much more recently P. H. Sawyer, *The Wealth of Anglo-Saxon England* (Oxford, 2013).
[2] Sawyer, *Wealth*, 1 and 23–26; J. Hatcher and M. Bailey, *Modelling the Middle Ages: The History and Theory of England's Economic Development* (Oxford, 2001), 21; R. Welldon Finn, *The Norman Conquest and its Effect on the Economy* (London, 1971), 3.
[3] H. C. Darby, *Domesday England* (Cambridge, 1977), 57–136 and 336; R. Holt, 'Society and Population 600–1300', in D. M. Palliser (ed.), *The Cambridge Urban History of Britain: 600–1540*, vol. 1 (Cambridge, 2000), 79–104 at 84.
[4] C. Dyer, *Making a Living in the Middle Ages: the People of Britain, 850–1520* (Yale, 2002), 8.
[5] Sawyer, 'The Wealth of England', 146–47.

Sawyer also drew on the evidence relating to taxation and coinage to illustrate the wealth of England. The *Anglo-Saxon Chronicle* records that very large amounts of tribute were paid to Scandinavian attackers in the period 991–1018 and that between 1012 and 1051 an annual tax called the *heregeld* was levied to pay for Scandinavian mercenaries who served the English king (see pages 29–30, 197–98 and 221–22). The *Chronicle* also records that the Normans levied high taxes.[6] To complement this documentary evidence, Sawyer draws attention to an abundant corpus of numismatic material, which consists of over 50,000 coins. Many of these have been found within England but most of them have been found in Scandinavia, especially for the period 990–1050.[7] This suggests that a significant proportion of the wealth of England described in the *Chronicle* and in Domesday Book took the form of silver coin.

How exactly was this wealth created and harnessed, and by whom? From the mid-ninth century, great changes were occurring in the rural landscape of England which affected the social and economic relationships between lords and peasants; it also resulted in the intensification of agricultural production. Among these changes was a large-scale migration of the population from dispersed dwellings and farmsteads into what historians have described as 'nucleated villages' or 'champion settlements'.[8] The focal points for such settlements were very often the lord's manor or the parish church.[9] Surrounding these villages were open fields where the lord's and peasants' arable strips would be evenly distributed so that everyone shared in the best and worst land.

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[6] Ibid., 145–46 and 153.
[7] Ibid., 149.
[8] Dyer, *Making a Living*, 17–26; D. Hooke, 'The Mid-Late Anglo-Saxon Period: Settlement and Land Use', in D. Hooke and S. Burnell (eds.), *Landscape and Settlement in Britain: AD 400–1066* (Exeter, 1995), 95–114.
[9] J. Blair, *Anglo-Saxon Oxfordshire* (Stroud, 1994), 132–34.

Some have argued that these new village settlements evolved organically from below to allow a growing population to manage their resources more efficiently.[10] Others view villages as lordly creations, imposed from above to furnish lords with greater economic leverage over their peasants.[11] This certainly occurred after the Norman Conquest when the incoming lords began to establish new settlements.[12] These new settlements housed a rapidly growing population. It has been estimated that the population increased by 70% between 1086 and 1150 and by 150% between 1086 and 1230; it is therefore improbable that such growth did not extend back before 1086.[13] There is clear and varied evidence that population growth went hand in hand with the intensification of agrarian production. New arable was created by extending into marshes, moorland and woodland between the Anglo-Saxon period and the fourteenth century. Plant and pollen remains from two Anglo-Saxon sites at Yarnton, Oxfordshire, and Market Lavington, Wiltshire, suggest that more wheat and cereal plants were being grown.[14]

All this went together with the fragmentation of large estates into smaller, more closely managed units. Until the mid-ninth century, the predominant tenurial units in England have been termed by historians as 'multiple' or 'great' estates.[15] These could reach between 20–40 hides in size and were often held by great lay aristocrats, minster

[10] Hooke, 'The Mid-Late Anglo-Saxon Period', 99.
[11] J. Thirsk, 'The Common Fields', *P&P*, 29 (1964), 3–25; T. A. M. Bishop, 'Assarting and the Growth of the Open Fields', *EcHR*, 6 (1938), 13–29; N. J. Higham, 'Settlement, Land Use and Domesday Ploughlands', *Landscape History*, 12 (1989), 3–43.
[12] R. Faith, *The English Peasantry and the Growth of Lordship* (Leicester, 1997), 178–200.
[13] H. E. Hallam, 'Population Movements in England, 1086−1350', in H. E. Hallam (ed.), *The Agrarian History of England and Wales*, vol. 2, *1042–1350* (Cambridge, 1988), 508−93; S. Baxter, 'Lordship and Labour', in *A Social History of England*, 98–114 at 101–02.
[14] R. Fleming, 'Land Use and People', in J. Crick and E. Van Houts (eds.), *A Social History of England, 900–1200* (Cambridge, 2011), 15–37 at 24–28; Faith, *English Peasantry*, 207–08.
[15] G. R. J. Jones, 'The Multiple Estate as a Model Framework for Tracing Early Stages in the Evolution of Rural Settlement', in P. S. Barnwell and B. K. Roberts (eds.), *Britons, Saxons and Scandinavians: The Historical Geography of Glanvill R. J. Jones* (Turnhout, 2012), 143–54. See also B. K. Roberts with P. S. Barnwell, 'The Multiple Estate of Glanvill Jones: Epitome, Critique, and Context', in *Britons, Saxons and Scandinavians*, 25–128.

churches and the king. Such estates usually contained complementary land types in order to be self-sufficient, and their tenants often only had to provide for the lord when he was in the immediate vicinity. However, these estates began to fracture into smaller units, often between 1–6 hides, after *c.* 850.[16] A good example of this phenomenon relates to the hundred of Bampton, Oxfordshire, which was carved up by the tenth-century Anglo-Saxon kings into distinct zones: a royal core based around a minster church, a bookland zone, a zone of land reserved for the offices of earls, and a zone of land given to royal officials or ministers.[17] Smaller estates could also be created through marriage portions or through dividing it for the purposes of inheritance. These fragmented estates now maintained resident landlords and would have had to have been more productive in order to do so. A lord could now literally ride around his new estate checking on his peasant tenants and coercing them to work harder. This pressure increased after the Norman Conquest since new lords often created larger demesnes for themselves and extracted harsher rents and dues from their tenants.[18]

The growth of the rural economy impacted upon the urban economy, which also grew and developed appreciably during this period. In the early tenth century there were broadly two types of urban settlement. Firstly, 'central places' were older centres of authority such as minster churches or royal centres where taxes or other forms of income were collected. These continued to flourish throughout the century as centres of exchange for both lords and peasants.[19] Secondly, boroughs or *burhs* were built from the end of the ninth century, initially to defend England against the Danish invasions, and

[16] Dyer, *Making a Living,* 26–35.
[17] S. Baxter and J. Blair, 'Land Tenure and Royal Patronage in the Early English Kingdom: A Model and a Case Study', *ANS*, 28 (2006), 19–46.
[18] Baxter, 'Lordship and Labour', 104–10.
[19] G. Astill, 'General Survey', in *Cambridge Urban History*, 27–49 at 34–38.

many were built next to or actually contained older monasteries or churches.[20] Many *burhs* evolved into centres of trade and administration by the later tenth century, although there has been debate over whether their builders had intended a commercial function from the outset.[21] By the end of the eleventh century there were around 112 boroughs or towns across England, exhibiting considerable variation in size and economic complexity.[22]

Markets also developed during this period. We know relatively little about them prior to 1200 since it is only after this date when documents recording market licenses begin to survive in number.[23] However, Domesday Book records some 60 markets in both urban and rural settings, which is probably an underestimate of the total number in Anglo-Saxon England.[24] Together, urban centres and markets provided secure places of exchange and offered products and services that may not have been readily available in certain parts of the countryside. Similarly, rural areas kept urban places supplied with raw materials, food and a steady stream of labour. For example, it has been estimated that Domesday Lincoln contained approximately 4,000 inhabitants, and if each consumed 25kg of meat per year, then 500 cattle, 700 sheep and 400 pigs would have had to have been slaughtered annually to feed that town.[25]

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[20] J. Campbell, E. John and P. Wormald, *The Anglo-Saxons* (London, 1991), 152–53; J. Blair, 'The Small Towns 600–1270', in *Cambridge Urban History*, 245–70; see also D. Hooke, *The Landscape of Anglo-Saxon England* (Leicester, 1998), 200–03.

[21] Astill, 'General Survey', 34–38; G. Williams, 'Military and Non-Military Functions of the Anglo-Saxon Burh, *c.* 878–978', in J. Baker, S. Brookes, and A. Reynolds (eds.), *Landscapes of Defence in Early Medieval Europe,* Studies in the Early Middle Ages, 28 (Turnhout, 2013), 129–63.

[22] R. H. Britnell, 'Commercial and Economic Development in England, 1000–1300', in R. H. Britnell and B. M. S. Campbell (eds.), *A Commercialising Economy: England 1086 to c. 1300* (Manchester, 1995), 7–26 at 10; Darby, *Domesday England*, 364–68.

[23] R. H. Britnell, 'The Proliferation of Markets in England, 1200–1349', *EcHR*, 34 (1981), 209–221, esp. 210.

[24] Darby, *Domesday England*, 369–70; C. Dyer, 'The Hidden Trade of the Middle Ages: Evidence from the West Midlands of England', *Journal of Historical Geography*, 18 (1992), 141–57, esp. 145–46.

[25] D. A. Hinton, *Archaeology, Economy and Society: England from the Fifth to the Fifteenth Century* (London, 1990), 96.

Further evidence of the growth of trade in this period comes from archaeology and the corpus of numismatic evidence of English coins. For example, from the tenth century onwards there were important pottery-making centres at Thetford, Ipswich, Stamford, Norwich, Nottingham, Northampton, Torksey and in Wiltshire. The find-spot distribution of Stamford-ware across England suggests a considerable local, regional and national trade in pottery.[26] Moreover, recent numismatic studies of the late Anglo-Saxon and Norman periods, most notably by Michael Metcalf, show that coins discovered both singly and in hoards circulated rapidly around England both close to and far from their mints of origin in significant number. Metcalf has argued that trade, especially international, was a driving force behind these patterns.[27]

Undoubtedly, international trade played a role in England's economic development since it was almost certainly foreign merchants who supplied the bulk of the silver which circulated within England throughout this period. The law code known as IV Æthelred describes merchants from Germany, Flanders and France entering London around the year 1000, and pottery from the Rhine and Meuse Valleys discovered in the city further demonstrates international mercantile activity from the continent.[28] Merchants were also known to have travelled to England from Scandinavia, and the discovery of contemporary Scandinavian coins within England supports this point

[26] Ibid., 82–85 and Stamford-ware map on 122.
[27] D. M. Metcalf, 'Continuity and Change in English Monetary History *c.* 973–1086', *BNJ*, 50 (1980), 20–49, esp. 24, 29 and 33–34; D. M. Metcalf, *An Atlas of Anglo-Saxon and Norman Coin Finds* (London, 1998), esp. 15 and 277–79.
[28] IV Atr 2.5–2.7; Sawyer, *Wealth*, 104; A. Vince and A. Jenner, 'The Saxon and Early Medieval Pottery of London', in A. Vince (ed.), *Aspects of Saxo-Norman London: 2. Finds and Environmental Evidence* (London: London and Middlesex Archaeological Society, 1991), 19–119 at 45.

further.[29] In the 1130s, Henry of Huntingdon described wool, fish, meat, milk and cattle as England's chief exports, and Sawyer has argued that the English wool trade extended back into the eleventh century (see pages 284–85).[30] English merchants also travelled abroad. The treaty between King Æthelred II (978–1016) and Olaf Tryggvason of Norway attempted to guarantee the safety of English merchants from Viking fleets.[31] English merchants were active in Tiel (in modern-day Belgium) in the early eleventh century, and *Ælfric's Colloquy* also describes English merchants selling their wares abroad and buying precious items to sell on the English market.[32] Further mercantile activity is suggested by English coin hoards discovered on the continent.[33]

## 1.2 The use of coined money by the elite and in urban settings

What was the role of coined money in the English economy and who used it? In this section I shall discuss coin use by the king and the state, by the Church and religious houses, by the lay nobility and by traders and townsmen. It will become clear that demand for coin among these groups was strong and that coin use occurred with great regularity above the level of the peasantry.

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[29] P. H. Sawyer, 'Anglo-Scandinavian Trade in the Viking Age and After', in M. A. S. Blackburn (ed.), *Anglo-Saxon Monetary History: Essays in Memory of Michael Dolley* (Leicester, 1986), 185–99; B and P. H. Sawyer, *Medieval Scandinavia: From Conversion to Reformation, c. 800–1500* (Minneapolis, 1993), 153–59; M. M. Archibald, 'Against the Tide: Coin-movement from Scandinavia to the British Isles in the Viking Age', *NNF-Nytt* 1 (1991), 13–22.

[30] Henry of Huntingdon, *Historia Anglorum*, ed. and trans. D. Greenway (Oxford, 1996), 10–11; Sawyer, 'The Wealth of England', 161–64; Sawyer, *Wealth*, 16–20 and 105. For a sceptical view on the eleventh-century wool trade see, for example, J. L. Bolton, *Money in the Medieval English Economy, 973–1489* (Manchester, 2012), 98.

[31] II Atr 1–7; F. M. Stenton, *Anglo-Saxon England* (Oxford, 1971), 540–44.

[32] Sawyer, *Wealth*, 99–100; Ælfric, *Colloquy*, ed. G. N. Garmonsway, 2nd edn. (Exeter, 1978), 33–34.

[33] I. Stewart, 'Coinage and Recoinage After Edgar's Reform', in *Studies in Late Anglo-Saxon Coinage: in Memory of Bror Emil Hildebrand*, *Numismatiska Meddelanden*, 35 (Stockholm, 1990), 457–85 at 482.

### 1.2.1 The King and the State

With the exception of Viking-struck coinages in the north of England from the late ninth to the mid tenth centuries, minting coin was a royal prerogative. It should, however, be acknowledged that during this period the Church claimed some minting rights: for example, the law code II Athelstan states that 'in Canterbury there shall be seven moneyers; four for the king, two for the Archbishop and one for the abbot'.[34] Coins were made by hammering small discs of silver, called flans, between pairs of dies. They were always struck in the king's name, and often showed his bust, which was a powerful tool in demonstrating his political and administrative power. The ecclesiastically-struck coins of this period were, therefore, indistinguishable from royally-struck coins, unlike in the eighth and ninth centuries. The workmanship of coins from the Anglo-Saxon and Norman periods is also usually considered to have been of better quality than coins of the Plantagenet period.[35]

The law code II Athelstan tells us that there should be one coinage throughout the king's realm and that the only legal place to strike coin was in towns.[36] This latter fact is supported by the urban mint names impressed into many coins of this period (and all of them after *c.* 973), and it is possible that the king and his moneyers levied minting charges on incoming silver from foreign merchants. Adding further to the king's income from the coinage may have been profits derived from a process of recoinage (often described as *renovatio monetae*, though this term was not current in Anglo-Saxon or Norman England) whereby coins belonging to older issues were recalled to the mints to

[34] II As 14.
[35] C. H. V. Sutherland, *English Coinage, 600–1900* (London, 1973), 57–62.
[36] II As 14; M. Blackburn, 'Mints, Burhs and the Grateley Code, cap. 14.2', in D. Hill and A. Rumble (eds.), *The Defence of Wessex: The Burghal Hidage and Anglo-Saxon Fortifications* (Manchester, 1996), 160–75, esp. 167–72; E. Screen, 'Anglo-Saxon Law and Numismatics: A Reassessment in the Light of Patrick Wormald's *The Making of English Law*', *BNJ*, 77 (2007), 150–72.

be converted into coins of the current type.[37] Here, there may have been an opportunity for the king and his moneyers to extract further minting charges. The monetary system and the potential profits deriving from it are examined in chapter 6.

Kings benefitted from their abundant, tightly controlled coinage in a number of other ways. It permitted them to draw a cash income from their estates. Two estimates of the total value of landed royal income in the reign of Edward the Confessor (1042–66) have recently been published. Grassi calculates the value of Edward the Confessor's estate income from figures given in Domesday Book to reach a total of £6,596.6s.2d. When additional revenues are added to the king's income, such as from urban tolls and rural customary dues, the overall total rises to £8,146 13s 6½d. and 1 ounce of gold.[38] Baxter arrives at a similar total for the Confessor's income, specifically £8,089. This comprises £4,310 from royal lands, £2,479 from estates which rendered 'the farm of one night', plus £1,300 from 'towns, trade, coins and profits of justice'. Baxter also calculates that Queen Edith held estates to the value of £1,499, which gives an overall annual royal income of £9,588 in 1066.[39]

Not all of this income would have been rendered in coin. For example, some of the farms of one night would have been consumed by the king and his court. However, figure 12 shows that Edward the Confessor's estates were distributed across England which means that he could not have consumed the entirety of these payments in food,

[37] R. H. M. Dolley and D. M. Metcalf, 'The Reform of the Coinage under Eadgar', in R. H. M. Dolley (ed.), *Anglo-Saxon Coins* (London, 1961), 136–68, esp. 148–152; M. Dolley, 'Roger of Wendover's Date for Eadgar's Coinage Reform', *BNJ*, 49 (1979), 1–11 at 10; Stewart, 'Coinage and Recoinage', 457–85 at 463–68; C. S. S. Lyon, 'Variations in Currency in Late Anglo-Saxon England', in R. A. G. Carson (ed.), *Mints, Dies and Currency: Essays Dedicated to the Memory of Albert Baldwin* (London, 1971), 101–120, esp. 115.
[38] J. Grassi, 'The Lands and Revenues of Edward the Confessor', *EHR*, 117 (2002), 251–83 at 251 and 280.
[39] S. Baxter, *The Earls of Mercia* (Oxford, 2007), 128–38.

and it is probable that many of these renders were commuted to cash payments. This proposition can be strengthened with evidence from the Axbridge Chronicle. This apparently locally-composed document dates from the fourteenth or fifteeth centuries and begins with Ralph de Diceto's *Abbreviationes Chronicorum* and Geoffrey of Monmouth's *British History* down to *c.* 1368.[40] However, it begins a new section discussing the origins and purposes of the *burhs* in the tenth century:

Temporibus Adelstani Edmundi Edredi Edgari et Sancti Edwardi alior[um] q[ue] Regum Anglie antiquor[um] gubernatio quidem h[a]ec fuit. Videlicet q[uo]d per consilium sanctor[um] dunstani et Alphegi alior[um] q[ue] [regni spe]ctabilium viror[um] ordinatum fuit ut fiere[n]t burgag i[dest] maneria sive mansiones regie, nam Bo[rough] Anglice latine sonat mansio seu habitatio unde in presenti foveas vulpium appellamus Boroughs, que constructa fuerunt diversis in locis in qualibet regni parte prout regie magestati tempus et loci situs commodius delectarent. Et etiam q[uo]d fierent custodes in quolibet Burgo qui tunc temporis vocabantur Wardemen i[d est] porterelbys Constabularii ceterii q[ue] officiarii qui regio [p. 11] nomine ordinarent victualia videlicet frumentum vinum et ordeum oves et boves cetera q[ue] pecora campi et volucres celi pisces q[ue] marinos pro tempore quo Rex in Burgo prefixo moram cum suis trahere decretaret · Namque per regni consilium assignatum erat cuilibet Burgo tempus certum spacium q[ue] temporis q[u]i[de]m cum suis in huiusmodi demoraretur. Si vero contingeret illuc regem non adesse tunc omnia preordinata in foro pred[i]c[t]i Burgi venundari deberent et pecunia rex recepta in fiscum regum per officianos predictos infera liceret.

[In the times of Athelstan, Edmund, Eadred, Edgar and St. Edward and other ancient kings of England the following act was performed. Evidently, by the counsel of saints Dunstan and Alphege and other respectable men of the king it was ordered that 'burgages', that is manors or king's dwellings, were made (for the 'Borough' of English is worded 'mansio' or 'habitatio' in

[40] F. Neale, 'The Relevance of the Axbridge Chronicle', in P. Rahtz, *The Saxon and Medieval Palaces at Cheddar, Excavations 1960–62* (Oxford, 1979), 10–12.

Latin, whence in the present time we call the pits of foxes 'boroughs') which were constructed in various places in any part of the kingdom as the time and suitable location of the place pleased [his] royal majesty. Officers were also created in every Borough who in those times were called 'Wardemen', that is port-reeves, constables and other officials, who in the name of the king arranged provisions, namely, grain, wine and barley, sheep and oxen and other cattle of the field, and birds of the air and fishes of the seas for the time in which the king with his following decreed a stay in the chosen Borough. Indeed, the king and his assigned following was to stay for a fixed time and space in every Borough. However, if it were to happen that the king did not arrive there then all the provisions ought to have been sold in the market of the aforementioned Borough and the king permitted the money received from this to be carried to the king's treasury by the aforementioned officials.][41]

Towns provided further revenue for the king. Rents from individual urban tenements were one such source, and Domesday Book and the Winton Domesday describe these rents in detail, showing that many were clearly paid in coin (see section 3.2.1). Estimates have been made of the total number of tenements in towns in 1086; for example, York contained between 1,000 and 1,500 tenements, Oxford contained just under 500, and Malmesbury contained around 100.[42] Collectively, urban rents would have formed a significant source of coined income for the king.

Profits of justice, through an array of burghal, hundredal and shire courts, formed an important revenue stream for the royal administration. Anglo-Saxon kings from the reign of King Alfred (871–99) had been attempting to define more offences as crimes against the state in an attempt to bolster their control over the nascent English

[41] Taunton, Somerset Archives and Local Studies, D/B/Ax 82 and D/B/Ax 961. The latter is a contemporary copy of the former text. My translation.
[42] A. Dyer, 'Ranking Lists of English Medieval Towns', in *Cambridge Urban History*, 747–770 at 752–53.

kingdom.[43] This process also created an increasing source of revenue for the government. One example from many demonstrates the use of coin as a means of payment for fines: in Domesday Chester the fine paid by a man whose house caught fire was 3 *orae* of pence (48d) (*iii oras denar[ios]*) – two parts to the king (32d) and one part to the Earl (16d) – as well as 2s (24d) to his nearest neighbour.[44]

A further important revenue stream for the king from towns was toll. The lawcode IV Æthelred, traditionally dated to *c.* 1000, lists the tolls on foreign ships entering London (payable in coin and in produce, such as planks of wood) down to women selling dairy produce (payable in coin and in eggs).[45] Later in the eleventh century the tolls on salt at Nantwich and Middlewich in Cheshire (payable both in salt and in coin) augment the notion that toll was a lucrative income stream for the king and his earls.[46] Toll payments will be examined more closely in chapter 3.

The king spent his personal wealth in a number of ways, and examples of lordly expenditure are discussed more fully in the section on the lay aristocracy below. However, one key expense would have been on the royal household, and a document known as the *Constitutio Domus Regis* ('the Establishment of the King's Household'),

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[43] Feud, however, remained a standard form of redress, see P. R. Hyams, *Rancor and Reconciliation in Medieval England* (Cornell, 2003), 71–154.
[44] GDB 262c (Cheshire C:13)
[45] IV Atr. However, D. Keene, 'Text, visualisation and politics: London, 1150–1250', *TRHS*, 6th ser., 18 (2008), 69–99 at 93–94, argues that since IV Æthelred is only known from mid-to-late twelfth-century versions of 'Quadripartitus' – a Latin collection of Anglo-Saxon laws which probably originated during the reign of Henry I – then this may reflect the real age of the text as opposed to its traditional attribution of *c.* 1000. Keene also suggests that the privileges enjoyed in IV Æthelred by the men of Cologne may have been those confirmed and extended by two royal charters granted in the 1170s. These arguments are convincing, yet I shall continue to use the information in IV Æthelred as a reasonable approximation of tolls values in England from the tenth to the twelfth centuries because they are of a similar scale to other tolls values of the period.
[46] GDB 268b (Cheshire S2–S3).

which dates from the first half of the twelfth century, describes how the king, as lord, paid for its members.[47] His major officers received substantial daily wages. For example, the Chancellor received 5s (60d), 1 loaf of the king's bread and 2 salted loaves, 1 *sextarium* of best wine, 1 *sextarium* of ordinary wine, 1 large wax candle and 40 pieces of candle.[48] Payments to minor members of the household are also described. For example, the huntsmen (*catatores*) received 5d and 20 servants (*seruientes*) each received 1d.[49]

In addition to income from rural estates, towns, trade and justice, late Anglo-Saxon kings enjoyed substantial income from taxation. Shires and hundreds had existed in late ninth-century Wessex to assist the king with administering defence and law. With the exception of the far north, the remainder of England was shired between 900 and 1016, and this process also enabled the royal administration to levy national taxation.[50] There were two principal forms of taxation in the tenth and eleventh centuries. Firstly, tribute money (*gafol*) was paid in substantial quantities to the Danes between 991 and 1018 in an attempt to stop their attacks; these may have been levied on the hide like a regular tax.[51] However, it is also possible that *ad-hoc* methods were used to collect it due to the

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47 Richard fitzNigel, *Dialogus de Scaccario: the Dialogue of the Exchequer*, ed. and transl. E. Amt. *Constitutio Domus Regis: Disposition of the King's Household*, ed. and transl. S. D. Church (Oxford, 2007), xxxviii–lxvii and 195–215.

48 Ibid., 196–97.

49 Ibid., 213.

50 Blair, *Anglo-Saxon Oxfordshire*, 102–11; H. R. Loyn, 'The Hundred in England in the Tenth and Early Eleventh Centuries', in H. Hearder and H. R. Loyn (eds.), *British Government and Administration: Studies Presented to S. B. Chrimes* (Cardiff, 1974), 1–15; P. Wormald, *The Making of English Law: King Alfred to the Twelfth Century. Volume 1: Legislation and its Limits* (Oxford, 1999), 264–86 esp. 284–85; Stenton, *Anglo-Saxon England*, 275–76; Campbell et al., *The Anglo-Saxons*, 58 and 200–01.

51 M. K. Lawson, 'The Collection of the Danegeld and Heregeld in the Reigns of Æthelred II and Cnut', *EHR,* 94 (1984), 721–38; '"Those Stories Look True": Levels of Taxation in the Reigns of Æthelred II and Cnut', *EHR*, 104 (1989), 385–406; 'Danegeld and Heregeld Once More', *EHR*, 105 (1990), 951–61; J. Gillingham, '"The Most Precious Jewel in the English Crown?" Levels of Danegeld and Heregeld in the Eleventh Century', *EHR*, 104 (1989), 373–84; J. Gillingham, 'Chronicles and Coins as Evidence for Levels of Tribute and Taxation in the Late Tenth and Early Eleventh Century England', *EHR*, 105 (1990), 939–50; D. M. Metcalf, 'Can We Believe the Very Large Figure of £72,000 for the Geld Levied by Cnut in 1018?', in *Studies in Late Anglo-Saxon Coinage*, 165–76.

emergency nature of the situation.[52] Writing in the late eleventh century, a monk of Worcester named Hemming complained that his church had been forced to melt down its treasures into silver and gold in order to pay this tribute to the Danes (see pages 283–84).[53] Secondly, the *heregeld*, established by Æthelred II in 1012 and ended by Edward the Confessor in 1051, paid for a standing force of Scandinavian warriors to serve the English king. The *Chronicle* states that in the years 1014 and 1040 this tax was worth £21,000 and £21,099, respectively.[54] Large quantities of English coins datable from the late tenth to the mid eleventh centuries have been found in Scandinavia, which suggests that much of these tributes and taxes were paid in coin.[55] Other references to taxation, or geld, relate to ships and shipbuilding.[56] The Norman kings used tax to cover other purposes: for instance, in 1110 King Henry I (1100–35) raised a tax to pay for his daughter's marriage.[57]

Campbell has observed that a high proportion of taxation was moved up to the king via agents before moving back down again into the wider economy, most notably between 1012 and 1051 when the *heregeld* was being levied.[58] At an elite level this probably involved ealdormen (and later earls), co-ordinating the administration of counties or groups of counties, and sheriffs who were royal agents working under ealdormen in each shire.[59] At lower levels, Campbell argues that the village reeve (*gerefa* or *prepositus*)

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[52] P. Stafford, 'Historical Implications of the Regional Production of Dies under Æthelred II', *BNJ*, 48 (1978), 35–51 at 46–47.
[53] Hemming, *Chartularium Ecclesiae Wigorniensis*, ed. T. Hearne, 2 vols. (Oxford, 1723), i. 248–49
[54] *ASC* C *s. a.* 1014; *ASC* E *s. a.* 1040 (*recte* 1041).
[55] M. Blackburn and K. Jonsson, 'The Anglo-Saxon and Anglo-Norman Element of North European Coin Finds', in M. Blackburn and D. M. Metcalf (eds.), *Viking Age Coinage in the Northern Lands: The Sixth Oxford Symposium on Coinage and Monetary History* (Oxford, 1981), 147–255.
[56] Williams, *Kingship and Government*, 144.
[57] Henry of Huntingdon, *Historia Anglorum*, 456–57.
[58] J. Campbell, 'Some Agents and Agencies of the Late Anglo-Saxon State', in J. Campbell, *The Anglo-Saxon State* (London, 2000), 201–25 at 207.
[59] A. Williams, *Kingship and Government in Pre-Conquest England, c. 500–1066* (Basingstoke, 1999), 109.

may have been responsible for collecting taxes.[60] State service could be profitable. For example, the geld lists in Exon Domesday reveal that tax collectors in Devon, worked in groups of 4, and were entitled to the geld of 1 hide, which was 6s (72d).[61] The coin was then taken to the king's treasury at Winchester (*ad thesauru[m] regis Wintonie*) by porters (*portatores*) in wagons (*saginarios*). The porters in question were not men in blue overalls: one of the *portatores* is named as Ralph de la Pommeraye, a substantial Devon baron who held 64 estates worth about £104.[62]

The text known as *Dialogus de Scaccario* ('the Dialogue of the Exchequer') illuminates the machinery of taxation in the late twelfth century. It describes how pennies (*denarios*) were sent to the Exchequer from the counties. One of the knights at the Exchequer (*milites*) then carried the 'pouch of silver' (*loculum argentius*), which had been sealed with the sheriff's seal (*sigillo uicecomitis*), from the lower to the upper Exchequer chamber. The pennies were then poured onto the table where they were mixed, and a sample of them was removed for a process known as 'blanching', whereby the coins were melted to assess their silver purity. The coins were accounted for with tally sticks, and the *milites* of the Exchequer were also responsible for dispersing the coins when ordered to by royal writ.[63]

In 1130 the total demanded royal income calculated from Henry I's pipe roll was £26,480. Of this, £9,526 (36%) came from 'land and associated profits', or county and

[60] Campbell, 'Agents and Agencies', 203–10.
[61] Williams, *Kingship and Government*, 145; A. Williams, 'Dorset Geld Rolls', in R. B. Pugh (ed.), *The Victoria History of the County of Dorset*, 2 vols. (London, 1968), iii, 115–49 at 117.
[62] Williams, *Kingship and Government*, 145; *Domesday Book, seu Libri Censualis, Willelmi Primi Regis Angliae, additamenta ex Codic. Antiquiss*, ed. H. Ellis (London, 1816), iv, 65 and 489.
[63] Richard fitzNigel, *Dialogus de Scaccario*, 14–17 and 54–69.

borough farms; £5,204 (20%) came from taxation, such as 'danegeld' and aids of broughs, cities, counties and knights; £10,972 (41%) came from 'justice and jurisdiction', which covered judicial fines, offerings to the king for his assistance in lawsuits and for privileges, and also from the king's financial rights over vacant bishoprics and abbeys; and £778 (3)% came from other miscellaneous payments.[64]

### 1.2.2 The Church and Religious Houses

The heads of religious houses and their communities constituted some of the greatest landholders in England. Valuations of their territorial holdings given in Domesday Book forcibly demonstrate this point: for example, the lands of Glastonbury Abbey were valued at £827 18s 4d per annum, those of the nunnery of Shaftesbury were worth £234 5s, and those of Burton Abbey were worth £37 8s 6d.[65] Sawyer has observed that in 1086 the abbey of Christ Church, Canterbury had an income of approximately £573 in cash per year as well as about £237-worth of renders in kind.[66] This is in contrast to the eleventh-century income of the great Benedictine abbey of Cluny in France, whose cash income was approximately £300 per year.[67] Foreign holdings of religious houses within England could also be sizeable. For example, the abbey of Fécamp held property worth £200 3d and the abbey of Bec held lands worth £23.[68]

Detailed evidence of the income derived from rents and dues owing to churches and religious houses survives in a number of estate surveys from pre-Conquest England and

[64] J. Green, *The Government of England Under Henry I* (Cambridge, 1986), 51–94 and 223.
[65] D. Knowles, *The Monastic Order in England* (Cambridge, 1949), 702–03.
[66] Sawyer, *Wealth*, 11.
[67] Ibid., 114; Sawyer, 'Wealth of England', 156.
[68] Knowles, *Monastic Order*, 703.

during the reign of Henry I. These show that renders were payable in labour, in kind and also in coin. On top of these, the church received additional payments such as tithe, churchscot and Peter's Pence from the wider population. These helped to pay for, amongst other things, religious services, alms, and the upkeep of church buildings, and are described in the law codes, legal texts and estate surveys of the period.[69] All the aforementioned payments are closely analysed in chapter 3. Religious houses also received donations from wealthy individuals, often in precious metal and coin, which are discussed in the section on the lay aristocracy, below. The ecclesiastical profits of minting (see page 24) would have been a further source of income.

The Church was an active participant in the land market. Naismith has demonstrated that payments for land in the Anglo-Saxon period were conducted in gold, silver, both precious and mundane objects, and in livestock.[70] For example, the *Libellus Æthelwoldi,* a twelfth-century text describing land acquisitions by Abbot Æthelwold for Ely Abbey in the later tenth century, records an exchange valued at £6 which comprised £4½ (*quattuor libras* and later *x solidos*), an unspecified number of sheep worth 20s and a horse worth 10s (120d).[71] In another transaction, Abbot Æthelwold purchased five parcels of land relating to the manor of Wittering for 12 gold mancuses and 2,600 pence.[72] The mixture of payments here suggests that in this instance silver pennies were used as part of the transactions, not as standards of value.

[69] J. Blair, *The Church in Anglo-Saxon Society* (Oxford, 2005), 488.
[70] R. Naismith, 'Payments for Land and Privilege in Anglo-Saxon England', *ASE*, 41 (2012), (forthcoming).
[71] *LE* ii.11; *LÆ* 13.
[72] Sawyer, *Wealth*, 101–02; *Anglo-Saxon Charters*, ed. and transl. A. J. Robertson (Cambridge, 1939), no. 40.

Much church wealth derived in coin was melted down and converted into precious objects to adorn churches in order to glorify God and to draw in faithful worshippers. Indeed, Dodwell has stated that the riches of churches and cathedrals in Anglo-Saxon England could probably not have been matched by the lay elite or even the king.[73] An example of such treasure comes from the bequest of the last Anglo-Saxon abbot of Peterborough who presented to his house 'a great number of shrines of gold and silver'.[74] Treasure could also be melted down and converted back into coin, as was described above when Hemming of Worcester complained about the church of Worcester paying its share of tribute to the Danes.

For the continental houses the most practical way to transfer wealth from its English lands across the English Channel was in the form of coin. Gazeau has drawn attention to a number of Norman houses in the aftermath of the Conquest which were enjoying cash revenues from their English estates as well as sums from prominent laypersons. For example, Robert I of Meulan granted £20 *anglice monete* to the abbey of Saint-Pierre in 1087–90 and £8 6s to the abbey of Saint-Léger from his Leicester exchequer.[75] In terms of the transportation of estate revenue, the entry for Felstead, Essex, in the estate survey for the abbey Holy Trinity, Caen, written between 1106 and 1113 states: 'Five sokemen [who] hold half a virgate and five acres render 17 shillings and 7 pence and

[73] C. R. Dodwell, *Anglo-Saxon Art: A New Perspective* (Manchester, 1982), 196.
[74] Ibid., 198; *The Chronicle of Hugh Candidus*, ed. W. T. Mellors (Oxford, 1949), 66.
[75] V. Gazeau, 'The Effect of the Conquest of 1066 on Monasticism in Normandy: the Abbeys of the Risle Valley', in D. Bates and A. Curry (eds.), *England and Normandy in the Middle Ages* (London, 1994), 131–42 at 136–37.

carry the farm to Winchester'.[76] Chibnall suggests that the farm was then transported to Caen.[77]

### 1.2.3 The Lay Aristocracy

The lay aristocracy represented a pivotal section of society since their status, possessions and relative wealth helped to set them apart from the ranks of the peasantry.[78] Baxter has recently generated income estimates of the Domesday estates of the most powerful earls. In 1066, Earl Harold of Wessex held estates to the value of £2,950 whilst Earl Eadwine of Mercia held estates to the value of £794 and his brother Morcar, Earl of Northumbria, held estates worth £1,038.[79] Clarke has also shown that wealthy thegns during the reign of Edward the Confessor could earn anywhere between £40 and £560 from their estates per annum.[80]

Lords benefitted from the revenue of urban and commercial centres alongside their landed income. Fleming has found that in Domesday Book two-thirds of the men holding over £60 of land are recorded with urban tenements, which suggests that the aristocracy were interested in the commercial value of such plots.[81] Furthermore, in the Norman period lords established weekly markets and annual fairs on their lands both to increase the skilled labour pool and to increase the amount of rents and tolls they could

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[76] *Charters and Custumals of the Abbey of Holy Trinity, Caen*, ed. M. Chibnall (Oxford, 1982), 33–38 at 33–34: 'Sokemans v qui tenent virgam et dimidiam et acras v, et reddunt xvii solidos et vii denarios et portant firmam ad Wincestre'. My translation.
[77] Ibid., xxxi and 34.
[78] For a summary of the Anglo-Saxon and Norman aristocracies see A. Williams, *The World Before Domesday: The English Aristocracy, 900–1066* (London, 2008) and J. Green, *The Aristocracy of Norman England* (Cambridge, 1997).
[79] Baxter, *Earls of Mercia*, 129.
[80] P. A. Clarke, *The English Nobility Under Edward the Confessor* (Oxford, 1994), 32–33.
[81] R. Fleming, 'Rural Elites and Urban Communities in Late-Saxon England', *P&P*, 141 (1993), 3–37 at 6.

extract.[82] At the highest levels, the earls enjoyed a privilege known as the 'third penny' from the urban profits of rents, tolls and justice. This was for assisting the king in running the royal government across the country. For example, in 1066 the borough of Stafford rendered £9 for *omnes consuetudines…duae partes erant regis, tercia comitis* ('all customs…two parts were the king's, the third the earl's').[83]

Lords were actively involved in the land market. In the *Libellus Æthelwoldi*, a certain Wulfstan was made to defend his claim over a piece of land at Swaffham which he had purchased for £8. Ælfric of Wickham stated that Wulfstan had bought the land and had paid for it in two instalments, the latter being paid *extremum denarium* ('down to the last penny').[84] The status of Wulfstan is unclear but it is improbable that he was a man of low standing since £8 was a considerable sum of money.

Possession of land was but one indicator of status and wealth in the early English kingdom. Fleming has used archaeological evidence to demonstrate that the tenth and eleventh centuries was a time of increasing economic prosperity for the landed aristocracy and the new rich, and it offered them a chance to display their affluence.[85] For example, the discovery of certain animal bones at thegnly residences suggests a rise in the consumption of prestigious foods, such as porpoise, wildfowl and deer.[86] The

[82] Green, *Aristocracy*, 156.
[83] GDB 246a (Staffordshire B:12); J. H. Round, 'The *Tertius Denarius* of the Borough', *EHR*, 34 (1919), 62–64; Baxter, *Earls of Mercia*, 89–97.
[84] *LE* 34; *LÆ* 45. See also Naismith, 'Payments for Land and Privilege', (forthcoming).
[85] R. Fleming, 'The New Wealth, the New Rich and the New Political Style', *ANS*, 23 (2000), 1–22; see also C. Senecal, 'Keeping Up with the Godwinesons: In Pursuit of Aristocratic Status in Late Anglo-Saxon England', *ANS*, 23 (2000), 251–66; and M. R. Godden, 'Money, Power and Morality in Late Anglo-Saxon England', *ASE*, 19 (1990), 41–65.
[86] See also, for example, Earl Harold's lodge at Bosham in the Bayeux Tapestry where he can be seen with four companions feasting and drinking from ornate horns, in L. Musset, *The Bayeux Tapestry* (Woodbridge, 2005), 92–97.

remains of ostentatious clothing show that they were being worn by elements of the eleventh-century nobility: 'There were marten-skins for the king, sable, beaver and wolf for those with considerable resources and cat-skin for social-climbing imposters'.[87] Intriguingly, thegnly residences in the eleventh century contain many manufactured goods despite them being much less prolific centres of production compared to tenth-century residences. This leads Fleming to argue that such goods must now have been purchased from itinerant traders and urban merchants, and that this was a sign of 'money-based consumption'.[88]

Lords also distributed their wealth to churches. At an elite level, Earl Harold is known to have given life-sized gold (or gold-covered) statues of the twelve apostles to Waltham Abbey, and his brother Tostig gave large gold figures of Christ on the cross to Durham.[89] These must have cost colossal sums of money. Surviving wills also demonstrate that other lords gave wealth to churches and to former servants, much of which was in coin. For example, Bishop Ælfric of Elmham (died *c.* 1038) granted 2 marks of gold to King Harold I, 40 pounds (probably silver) to his servants, and 5 pounds each to the churches of Ely and Holme amongst other payments. At a lower level, a thegn named Ælfric Modercope granted Ramsey Abbey *six marc silures* ('six marks of silver') amongst other bequests to different recipients in the mid eleventh century.[90]

[87] Fleming, 'The New Wealth', 10.
[88] Ibid., 12.
[89] Ibid., 14.
[90] *Anglo-Saxon Wills*, ed. D. Whitelock (Cambridge, 1930), nos. 26 and 28.

### 1.2.4 Traders and townsmen

The inhabitants of towns and those who frequented them used coin on a regular basis. The evidence to support this has, to a certain extent, been covered above but I shall reaffirm and elaborate on the salient points here. It is highly probable that the silver for the English coinage came from continental bullion and that foreign merchants were responsible for transporting it to England. This position stems from the fact that there is little evidence for the existence of English silver mines large enough to have produced the volume of coinage which is thought to have circulated. Furthermore, the most prolific mints in England were major towns that faced the continent, and merchants would have been required to convert their foreign silver into English coin at the ports of entry. Metcalf has argued that merchants played a key role in transporting coins around the English kingdom because many coins have been found at relatively large distances from their mints of origin. Merchants were thus taking their newly-converted coins and spending them across the country. These arguments are analysed in greater detail in chapter 5.

Toll paid by merchants and traders, whether for the sale of goods or for access to certain places, was often in coin. We have already seen that IV Æthelred stipulates that toll could be paid in coin or in other forms. One relatively high toll (*rectitudinem*) was levied on the men of Rouen who entered Billingsgate carrying blubber fish: 6s (72d) and 5 percent of the fish.[91] This mixture of payments once again suggests that the 6s was a demand for coin and not produce to that value. The tolls on individuals purchasing salt in Domesday Cheshire are of a much lower magnitude but are similarly expressed in coin. Indeed, minor traders who purchased salt to sell in the county were required to

[91] IV Atr 2.5.

pay 1d toll for every cartload of salt or 1d at Martinmas (11th November) if they sold salt by horseback.[92]

Since it was a legal requirement for transactions to be witnessed in towns (see page 314), and because towns were the only legal places to strike coin, it is probable that most of those who permanently dwelled in towns came regularly into contact with coin. The Winton Domesday describes many small-scale rental payments in coin for urban plots during the reigns of Edward the Confessor and Henry I.[93] For example, a certain Edwin Gule and Alwin the priest paid 30d (*xxx d*) and the custom (*consuetudines*) for 2 messuages (*mansuris*) during the Confessor's reign, and Thurstin the clerk owed the same during the reign of Henry I.[94] Furthermore, Osbert the brother of Maisent held a house from Osbert son of Thiard and rendered to the latter *vii solidatas ferrorum per iii addenarios* (7 shillings-worth of irons (horseshoes?) at 3 account days).[95] This may suggest that coins were used as the means of payment from almost every other plot with a rent in monetary terms, though the payment could equally have been met in other ways.

## 1.3 The English peasantry and the money economy

The foregoing sketch of the early English economy has argued that the king, the aristocracy, religious houses, merchants, townsmen and government agents all regularly used or came into contact with coin. But was the use of the silver penny restricted to

[92] GDB 268a (Cheshire S3:3); D. Whitelock, *The Beginnings of English Society* (Harmondsworth, 1952), 116.
[93] F. Barlow (ed. and transl.), 'The Winton Domesday', in M. Biddle (ed.), *Winchester in the Early Middle Ages: An Edition and Discussion of the Winton Domesday*, Winchester Studies 1 (Oxford, 1976), 1–141.
[94] Ibid., 67.
[95] Ibid., 52. The horseshoes are Barlow's suggestion.

these sectors of society? If so, is it legitimate to talk about a 'money economy' in this period if the majority of the population did not use it regularly or even at all?

The term 'peasantry' has been used by historians to refer to a wide spectrum of society below the aristocratic elite. The social status and economic prosperity of peasants varied considerably, depending on a range of factors, including the amount of land they owned or enjoyed usufruct of; the quantity and nature of the rents and dues they owed to lords; the extent to which they enjoyed the freedom to buy, sell, bequeath or otherwise alienate property, or to move within the landscape; and the extent to which they could participate in, and be protected by, institutions of royal government. A free, or less dependent, peasant often held larger plots of land than his dependent counterpart, was able to sell his land and was often obliged to render certain services to the state, such as army service, bridge maintenance, and *burh* maintenance.[96] He was also responsible for paying tax directly for the land he held and performed relatively high status services for his landlord, such as riding with him for his protection.[97] In the estate surveys of Tidenham, Gloucestershire, composed between the mid-tenth and the mid-eleventh centuries, Lambourn, Berkshire, composed in the late eleventh century, and in the *Rectitudines Singularum Personarum* (*RSP*), a survey possibly relating to an estate in Wiltshire or Somerset and datable to the period 950–1050, this class of peasant is termed *geneat*.[98] In Domesday Book and in twelfth-century estate surveys these peasants

[96] Williams, *Kingship and Government*, 67–68; Faith, *English Peasantry*, 99–100.
[97] Faith, *English Peasantry*, 89–125.
[98] Robertson, *Charters*, no. 109 and page 451, and Appendix I no. 5; F. Liebermann, *Die Gesetze der Angelsachsen*, 3 vols. (Halle, 1903–16), i, 444–53 at 445; P. D. A. Harvey, 'Rectitudines Singularum Personarum and Gerefa', *EHR*, 108 (1993), 1–22 at 21.

are termed *liberi homines* ('free men') and *sochemanni* ('sokemen'), and Darby's analysis of Domesday Book reveals that they comprised 13.7% of the recorded population.[99]

Other more dependent peasants were more closely tied to estates and their lords, owed higher rents, and were less free to alienate land. Prior to Domesday Book, the estate surveys of Tidenham, Lambourn and the *RSP* describe peasants called *geburas*. In the *RSP*, the *gebur* held a 30-acre plot and worked for his lord for 2 to 3 days per week.[100] The estate survey for Hurstbourne Priors, Hampshire, datable to 900–1050, describes similar peasants called *ceorlas*.[101] From Domesday Book onwards, the Latin term *villanus* is used to describe peasants whose social and economic status was analogous to those of the pre-Conquest *gebur* and *ceorl*. In his study of Domesday Middlesex, Lennard found that the *villani* usually held a virgate of land, often approximated to 30 acres, but in nearby Sawbridgeworth, Hertfordshire, he also found *villani* holding half-virgates, roughly 15 acres.[102] According to Darby's analysis, the *villani* of Domesday Book made up 40.6% of the population.[103]

A second category of dependent peasant comprised the pre-Conquest *kotsetla* and, its closest equivalent, the late-eleventh and twelfth-century *bordar* and *cottar*. The *kotsetla* of the *RSP* held a 5-acre plot and worked just 1 day per week for the lord as rent.[104] In Domesday Book, the *bordarii* made up 30.4% of the recorded population whereas the

[99] Darby, *Domesday England*, 337.
[100] Liebermann, *Gesetze*, i, 446–48.
[101] *Charters*, no. 110 and page 454; Faith, *English Peasantry*, 77.
[102] R. V. Lennard, *Rural England: 1086–1135* (Oxford, 1959), 341–44.
[103] Darby, *Domesday England*, 337.
[104] Liebermann, *Gesetze*, i, 445–46.

*cottars* made up 1.9%.[105] Lennard's research of Domesday Middlesex has shown that two-thirds of the *bordarii* held 5-acre plots, although 52.4% of *cottars* were not accredited with any land and 10.6% held only gardens.[106] A final category of rural workers during this period who were unfree, in that they had no land of their own and relied on the lord for their subsistence, were slaves. In Anglo-Saxon England they formed a key labour component of many estates, especially in western England, and in 1086 formed approximately 10% of the recorded population.[107] However, after the Conquest their numbers eventually dwindled to zero since the Normans found it more profitable to turn slaves into dependent peasants.[108]

The question as to whether, and to what extent, the peasantry used money and under what circumstances has received some attention from historians and numismatists. At one end of the spectrum, it is theoretically possible for peasants to have been excluded from the monetary economy. For instance, their renders to lords may have been made entirely in kind. These renders could then have been converted to coin only at the point of trade in a town or at a market by the lords' agents. If this were the case, it is conceivable that peasants operated almost entirely within a barter economy. Such a position appears to be favoured by Snooks. When describing manorial income in Domesday Book he states that:

> in the late eleventh century, unlike the thirteenth and fourteenth centuries, the typical peasant did not pay rent on his land. Unfree peasants exchanged labour services for land for subsistence

[105] Darby, *Domesday England*, 337.
[106] Lennard, *Rural England*, 342.
[107] Darby, *Domesday England*, 72–74 and 337.
[108] D. A. E. Pelteret, *Slavery in Early Medieval England: from the Reign of Alfred until the Twelfth Century* (Woodbridge, 1995), 251–54.

purposes, and free peasants held their land of the king in exchange for military service, not rent. The exchange of land-use for rent only emerged in the following centuries.[109]

Le Goff concurs. Though describing continental Europe as opposed to England he sees the period between the end of the Roman Empire and the sixteenth century as a 'regressive phase' for the presence and use of cash. For elites, wealth meant being rich in land, power and men more so than in cash. Le Goff does, however, acknowledge that peasants in the Middle Ages could handle small amounts of cash and that after the Carolingian period the importance of money slowly began to rise, culminating in the 'glorious thirteenth century of money'. He also argues that it is 'impossible' for historians to estimate the importance of money before the mid-twelfth century because of the paucity and ambiguity of the surviving documentary evidence and because of the lack of communication between economists and numismatists.[110]

Britnell has discussed the use of coin at the lower end of the social scale in more depth. He argues that the inflexibility of the coinage system would have restricted any village trade to very few transactions and that coin was mainly used by peasants to render taxes and parts of their rental obligations. He argues that the flow of coin outwards from lords or from urban centres to rurally-based peasants may have been restricted by a number of factors. These include the fact that any wage payments to peasants may have been made in kind, such as grain, as well as in coin, that it may have been easier for merchants to buy rural surpluses in bulk from aristocratic demesnes rather than in

[109] G. D. Snooks, 'The Dynamic Role of the Market in the Anglo-Norman Economy and Beyond, 1086–1300', in *A Commercialising Economy*, 27–54 at 31.
[110] J. Le Goff, *Money and the Middle Ages: an Essay in Historical Anthropology* (Cambridge, 2012), 1–49 esp. 1, 10–11 and 19.

smaller amounts from peasants, and that many urban centres were self-sufficient because they owned the fields within and around them, thus preventing cash from entering the wider countryside. He further observes that the English penny was too valuable to purchase everyday items, observing that in the early twelfth century 1d would buy a quarter of a sheep's carcass but not a pound of neck.[111] Fleming follows this analysis, stating that whilst peasants paid obligatory renders to lords in coin, 'for the vast majority the value of the penny was too high to buy much of anything at all…it was not a coin in the year 1000 that could readily be spent by cottars or villeins'.[112] Britnell argues for a much wider, regular and 'commercialised' use of coin in the later twelfth and thirteenth centuries when we appear to see increases in the amount of money in circulation, in the number of markets, in population levels and in economic specialisation, when compared to the preceding period.[113]

Bolton has recently developed Britnell's conclusions. He has asserted that before the late thirteenth century 'there was simply not enough coin in circulation to make the regular, day-to-day use of coin possible, and it is when the use of coin becomes the norm and not the exception that we have the beginnings of a money economy'.[114] Bolton acknowledges that cut fractions also played a role in the economy before the mid-twelfth century, but again argues that there were not enough of these in circulation to meet demand. He estimates that in 1086 the amount of coin in circulation per capita was between 3d and 6d, whereas by 1300 it was between 45d and 70d. On this basis,

111 R. H. Britnell, *The Commercialisation of English Society* (Cambridge, 1993), 30 and 36–52.
112 Fleming, 'The New Wealth', 18.
113 Britnell, *Commercialisation*, 79–151; Britnell, 'Commercialisation and Economic Development', 7–26.
114 J. L. Bolton, 'What is Money? What is a Money Economy? When did a Money Economy Emerge in Medieval England?', in D. Wood (ed.), *Medieval Money Matters* (Oxford, 2004), 1–15 at 9–10; see also Bolton, *Money in the Medieval English Economy,* 174–223.

Bolton suggests that the value of the penny was much lower and could be used to purchase lower-valued goods on a more regular basis by 1300.

Bolton further argues that for a money economy to function successfully, the following must be in place: sufficient levels of numeracy and literacy to facilitate recording and accounting in urban and rural settings;[115] a standard system of weights and measures across the kingdom to make exchange simple and fair; and the widespread use of credit. Bolton argues that Anglo-Saxon and Anglo-Norman England 'would certainly have failed all these tests'. He also follows Britnell and Fleming in concluding that the value of the penny would have been too high to have been of practical use. Finally, he asserts that many of what may appear to be monetary payments in the documentary sources might actually be values payable in labour or kind. For these reasons, Bolton argues that England had a 'monetised' but not a 'money' economy from the tenth to the mid-twelfth centuries.[116]

Others have envisaged wider and more regular uses of coined money. Naismith has argued that even before the tenth century coins were used by all sections of society. He observes that rural rents probably accounted for much of the coin circulating in the countryside, but that this depended on the existence of a network of markets across the country with which to convert agricultural surpluses to coin. In this connection, he draws attention to peasant society in modern central India where markets and monetary exchange notably figure. Naismith further demonstrates that even the poorest in society

115 See M. Clanchy, *From Memory to Written Record: England 1066–1307*, 2nd edn. (Oxford, 1992), esp. 21.
116 Bolton, *Money in the Medieval English Economy*, 87–138, esp. 113, 128–29 and 132–35.

had access to coin in the form of alms, which may then have been spent in a commercial setting at a market or in a town.[117]

Dyer has also argued that peasants in this period made use of markets and towns to convert their agricultural surpluses into cash in order to make compulsory payments to lords and to the state. However, he suggests that some peasants would have had remaining cash with which to buy essential everyday objects and also to buy items 'for pleasure, status seeking and [for] other familiar motives', such as pottery, belt attachments and brooches.[118] Mayhew similarly argues that a society taxed to pay for armies would have to have been 'familiar with the regular and widespread use of coin'.[119] Spufford describes in detail the impact of the 'Commercial Revolution' of the thirteenth century in terms of the increased volume of silver in Europe from the 1160s onwards, yet has this to say about coin use in eleventh-century Europe:

> the question remains of who was using money by the early eleventh century in Germany and England, and it seems impossible to avoid the conclusion that, in parts of these countries at least, all sections of the community were using coin to a certain extent.[120]

It is this 'extent' which I wish to examine.

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[117] R. Naismith, *Money and Power in Anglo-Saxon England: the Southern English Kingdoms, 757–865* (Cambridge, 2012), 276–84; C. Gregory, *Savage Money: The Anthropology and Politics of Community Exchange* (Amsterdam, 1997), 58–63.
[118] Dyer, *Making a Living*, 14 and 39–40. See also C. Dyer, 'Peasants and Coins: the Uses of Money in the Middle Ages', *BNJ*, 67 (1997), 30–47 for a discussion of this issue after the year 1200.
[119] N. J. Mayhew, 'Coinage and Money in England, 1086–*c.* 1500', in *Medieval Money Matters*, 72–86 at 79.
[120] P. Spufford, *Money and its Use in Medieval Europe* (Cambridge, 1988), 87 for quotation and 107–263 for the 'Commercial Revolution'.

## 1.4 The structure of the thesis

The thesis is divided into two sections: the first, comprising two chapters, will explore the documentary sources; the second, comprising three chapters, will examine the numismatic evidence.

Chapter 2 discusses the values of objects and movables. Using a range of documentary sources from the tenth to the twelfth centuries I have constructed a comprehensive list of the value of objects and movables in four main categories: livestock, horses, food and other objects. This makes it possible to estimate the purchasing power of the penny, and occasionally to detect trends in price movements from the tenth to the twelfth centuries. Chapter 3 treats the values of small-scale payments and services, assessing the value of transactions which often involved payments made at the lowest end of the social scale, namely rural and urban rents, customary dues, church payments, payments to the king and to the state, judicial fines and tolls. It also considers the role which coined money played in these transactions.

Chapter 4 examines estimates of mint output and the size of the circulating currency in relation to estimates of GDP. Since no documentary records relating to mint output exist before the thirteenth century, this chapter examines the volume of mint output and the size of the currency from the evidence of the coins themselves. I analyse existing estimates of these before suggesting my own. This makes it possible to assess the nature of the money economy at a macro level, reflecting on how much coin there may have been in the economy in relation to GDP. Chapter 5 explores the evidence of

single coin finds. Michael Metcalf has been the leading figure in interpreting this ever-increasing body of evidence for the early English kingdom and I engage with his methodologies and conclusions in order to settle upon an interpretative framework for the latest dataset of single finds.[121] The chapter analyses find-spot distributions, and the distance coins travelled, and offers explanations for these patterns. Chapter 6 considers the coin hoards. I analyse this evidence in a number of ways: the chapter explores issues relating to hoard size and depositor identity, the composition of hoards, the distances which the coins in hoards travelled, the geographical distribution of hoards, and the impact of historical events upon hoarding activity. I also analyse the nature of the monetary system in this chapter.

The conclusion draws the principal findings of these chapters together, and reflects on the nature of the money economy from 924 to 1135.

[121] I also engage with a recent article by Naismith on the subject – R. Naismith, 'The English Monetary Economy, *c.* 973–1100: the Contribution of Single-Finds', *EcHR*, 66 (2013), 198–225.

## 2. The values of objects and movables

Since the silver penny was the major coin produced by English mints throughout this period, one way to assess the level of monetary use in the economy between 924 and 1135 is to demonstrate how much a penny, and coined money as a whole, could buy. The objective of this chapter is therefore to collect and analyse documents which quantify the value of goods in monetary terms. A useful starting point is Harvey's list of the values of several objects and payments drawn from eleventh-century sources.[1] The present chapter will expand upon this list and will build up a database of prices and values of material goods (as distinct from payments and services, which will be treated in chapter 3) drawn from documents dating to the period between 924 and 1135. This will provide suggestive evidence as to how far coins penetrated into the economy, and how far down the social scale they were used. For example, if it became apparent that a single penny could buy an expensive object such as a war-horse, it would seem doubtful that coins were ever used below the level of the aristocracy. However, if it emerges that a penny could buy a chicken, or even an egg, it would seem probable that coins were widely used. This chapter explores these poles of possibility.

The principal documentary sources that have been examined for this purpose are: the corpus of Anglo-Saxon and Norman legislation; Domesday Book and its satellite texts; eleventh and early twelfth-century estate surveys and records; chronicles including the *Anglo-Saxon Chronicle* and *Liber Eliensis*; charters, wills and guild statutes.

[1] S. Harvey, 'Domesday England', in *The Agrarian History of England and Wales*, 45–136 at 57.

## 2.1 Livestock

This survey of objects and movables begins with livestock for two reasons. Firstly, pricing data between 924 and 1135 is very sparse in comparison with the material that exists for later centuries but it is at its fullest when it comes to livestock. This demonstrates the importance of farm animals to medieval life, because they provided food, material for clothing, exportable commodities and plough traction. Secondly, Farmer has suggested that livestock animals give a better indicator of price trends since their values were less affected by poor weather.[2]

### 2.1.1 Oxen

The primary use for oxen (castrated bulls) was for ploughing fields, and it was only during the twelfth century that horses were more routinely introduced to ploughing duties.[3] Oxen could also be used in other areas. For example, in late eleventh-century Cheshire tolls were imposed on carts of salt that were pulled by oxen.[4] Bulls will also be considered here despite the fact that they may not have been plough-beasts.

[2] D. L. Farmer, 'Prices and Wages', in *The Agrarian History of England and Wales*, 715–817 at 745.
[3] J. Langdon, *Horses, Oxen and Technological Innovation: The Use of Draught Animal in English Farming from 1066 to 1500* (Cambridge, 1986), 22–46.
[4] GDB 268a (Cheshire S3:2), GDB 268b (Cheshire S2:2).

**Table 1: the value of oxen and bulls, 924–1135**

| Name | Value in d | Date | Form of price | Place | Reference |
|---|---|---|---|---|---|
| Ox | 30 | 924–39 | 1 ox or 30d | – | VI As 3 and 8.5 |
| Ox | 30 | 924–39 | Mancus | – | VI As 6.2 |
| Ox | 30 | 924–39 | – | South Welsh/English border | Dunsæte, *Gesetze*, i, 374–9 at 378[5] |
| Bullock | 32 | ? | 2 ores | Bury St. Edmunds, Suffolk | Robertson, *Charters*, App. II, no. 8 |
| Ox | 30 | 1066 | 30d or 1 ox | Coswarth, Cornwall | GDB 120c (Cornwall 1:15) |
| Ox | 30 | 1086 | 30d or 1 ox | Parford, Devon | GDB 116b (Devon 43:1) |
| Ox | 30 | 1086 | 30d or 1 ox | East and Great Huish, Devon | GDB 117d (Devon 51:2) |
| Ox | 24 | 1086 | 4s or 2 oxen | Chester | GDB 263a GDB (Cheshire B:2) |
| Ox | 24 | 1086 | 2s or an ox | Archenfield, Herefs. | GDB 179b (Herefordshire A:7) |
| Ox | 24 | 1125–28 | 7 oxen are worth 14s | Thurlby, Lincolnshire | *Chronicon Petroburgense*, 160[6] |
| Ox | 36 | 1130 | 16 oxen 48s by tale | Berkshire | PR 31 Henry I, 96 |
| Bull | 120? | 1130s? | In payment for wergild a bull at 10s | – | *LW* 9.1 |

The prices of oxen in table 1 are remarkably stable over the two-hundred year period. The bullock (*repær*) referred to in a will fragment from Bury St. Edmunds is also of

[5] 'Ordinance concerning the Dunsæte', *Gesetze*, i, 374–79 at 378.
[6] *Chronicon Petroburgense*, ed. T. Stapledon, Camden Society (London, 1849), Appendix, 157–66.

comparable value. The only significant variation from the trend is the 10s, or 120d, bull (*tor*) referred to in the *Leis Willelme*, a source which Wormald describes as 'an intellectual's exercise' based on current English law of the twelfth century, Cnut's law code and Roman law.[7] Liebermann was puzzled by this value and suggested that the Mercian shilling of 4d was meant, which would make the bull 40d.[8] The figure for the bull would then be more comparable to the other values in table 1, but this interpretation of the shilling is still conjectural.

The first entry in the table relates to two clauses from VI Athelstan, both of which give the value of an ox as 30d. The first clause relates to a fine for the non-payment of dues: *witon eac, þæt ælc gelast forðcume þara þe we ealle gecweden habbað to ure ealra ðearfe be xxx pæn oððe he anum hyrðere* ('they [the ten heads of tithing groups and the hundred official] shall see to it also that each of those dues is forthcoming on which we have all agreed for our common benefit, on penalty of thirty pence or one ox').[9] The second clause relates to a fine for non-assistance in tracking stolen oxen. The second and third entries in the table, from the law code VI Athelstan and from the *Dunsæte*, relate to legal compensation values.[10] The value of oxen in Chester relates to the payment of fines for loading in the city on Sundays or on feast-days, and the value of oxen from Archenfield relates to the non-attendance at the shire court by one of the better men (*meliores*) of the county: *qui vocat[us] n[on] vadit dat ii sol[idi] aut unu[m] bove[m] regi* ('whoever is called and does not go gives 2s or 1 ox to the king'). The oxen from Coswarth, Parford and East

[7] Wormald, *The Making of English Law*, table 3.1, 112–17 at 117 and 407–09.
[8] Liebermann's suggestion is cited in A. J. Robertson, *The Laws of the Kings of England from Edmund to Henry I* (Cambridge, 1925), 367.
[9] VI As 3. Attenborough's translation, in *The Laws of the Earliest English Kings*, ed. and transl. F. L. Attenborough (Cambridge, 1922), 159.
[10] The Dunsæte appears to be a document concerned with the regulation of interactions between the English and Welsh populations either side of the River Wye near Archenfield, see Wormald, *The Making of English Law*, 381–82.

and Great Huish in Domesday Book all relate to the payment of a customary due of 30d or 1 ox from those manors. The ox from Thurlby on the Peterborough Abbey estates is simply valued at 2s or 24d. Finally, the value of the ox from Berkshire at 36d relates to the cost of restocking the royal manors in that county. Farmer asserts that lords only bought healthy animals which were fit for carting or ploughing; if so, this suggests that these were healthy oxen and that this was their market price.[11] The combined evidence of table 1 also suggests that legal compensation values for oxen reflected their market value rather than an inflated sum which may have acted as a fine.

How do these values compare with those in surrounding periods? Several estate surveys found in the Ramsey Abbey cartulary, made during the reign of Henry II (1154–89), contain price evidence for oxen. One ox was valued at 32d, five were valued at 36d, and a further three were valued at 40d, 42d and 48d.[12] Similar evidence to Ramsey comes from a selection of twelfth-century manorial leases relating to St. Paul's, London. In total there are references to the values of eighteen oxen, fourteen of which were valued at 36d. The remaining four were valued at 24d, 28d, 40d and 64d.[13] Therefore, the value of oxen may have hovered between 24d and 36d until the later twelfth century.

Later evidence shows that the values of oxen rose dramatically. By the early thirteenth century the value of oxen had increased to around 72d and by 1250 the figure had risen again to 108d. At the end of the thirteenth century the value of an ox was around 144d

11 Farmer, 'Prices and Wages', 745–46.
12 *Cartularium Monasterii de Ramseia*, ed. W. M. Hart and P. A. Lyons, Rolls Series 79, 3 vols. (London, 1884–93), iii, 257, 261, 266, 274, 279, 307, 311, 313.
13 *The Domesday of St. Paul's of the Year MCCXXII*, ed. W. H. Hale, Camden Society (London, 1858), 122, 123, 124, 126, 128, 131, 132, 133, 134, 135, 138.

and it reached a peak during the reign of Edward II (1307–27) at 192d.[14] This large price increase is consistent with what is known about price inflation in the late twelfth and thirteenth century generally, and is probably related to the discovery of large central-European silver mines in the 1160s. This facilitated a boom in coin production and increased the size of the circulating currency by around twenty times compared to that of the mid-twelfth century.[15] The price rise may also be related to the practice of clearing forests and draining fenlands (assarting) in order to create new arable land since there may have been a higher demand for oxen to plough the new fields.[16]

Lennard calculated that 63% of the *villani* in Domesday Book held 2 oxen or more and that 16% of the *bordar-cottar* class held between 1 and 2 oxen per person per group.[17] Whilst landlords might have directly owned many of the plough-beasts that peasants kept on their holdings, as suggested by the *RSP*, Lennard's figures suggest that the peasantry who did own their own oxen would have possessed assets worth around 30d for 1 ox and around 60d for 2 oxen.[18]

It is intriguing to note that 8 oxen at 30d equal 240d, or £1, since the average annual value of the hide (the area that a team of 8 oxen was expected to plough in a year) has been similarly approximated to £1.[19] This may suggest that the Anglo-Saxons were acutely aware of the wealth that land was supposed to generate and thus valued oxen

[14] Farmer, 'Prices and Wages', 746–47.
[15] Spufford, *Money and Its Use*, 109–31. Also see the chapter 4 conclusion. P. D. A. Harvey, 'The English Inflation of 1180–1220', *P&P*, 61 (1973), 3–30; P. Latimer, 'The English Inflation of 1180–1220 Reconsidered', *P&P*, 171 (2001), 3–29.
[16] Dyer, *Making a Living*, 113 and 129–30.
[17] Lennard, *Rural England*, 351–52 and 356.
[18] *Gesetze*, i, 444–53 at 447; Harvey, 'Rectitudines Singularum Personarum', 1–22 at 4–8 and 18–21.
[19] F. W. Maitland, *Domesday Book and Beyond: Three Essays in the Early History of England* (Cambridge, 1897), 360 and 465.

accordingly. One should distinguish, however, between the capital asset of the ox and the annual revenue that the land generated. The life expectancy of an ox was roughly 15 years, so they would not need to be replaced on an annual basis.[20]

### 2.1.2 Cows

In Anglo-Saxon England the archaeological record suggests that cows were a major food source for meat and milk. At the London sites of Billingsgate and St. Magnus, in Viking York and at Flaxengate, Lincoln, the percentage of cattle bones discovered there, as a proportion of the total number of animal bones, was between 50 and 75% which suggests a high consumption rate.[21] Even the male slave in the *RSP* was given a *metecu* (food cow) for food every year.[22]

References to the value of cows are sparser than for oxen (table 2), but the picture that emerges suggests that cows were of similar value. This may be partly related to their size. However, in the earlier Anglo-Saxon period cattle were often rendered as tribute to lords so possession of cows and oxen became associated with status. Screen has drawn attention to the close association between cattle and values in the Anglo-Saxon law codes since cows and oxen had become an obvious target for theft.[23] Indeed, II Athelstan states that no man was to buy livestock to the value of 20d without the presence of witnesses, and this was the value of a cow in VI Athelstan.[24]

[20] S. Isager and J. E. Skydsgaard, *Ancient Greek Agriculture: an Introduction* (London, 1992), 89.
[21] A. Hagen, *Anglo-Saxon Food and Drink* (Ely, 2010), 73–74.
[22] Hagen, *Food and Drink*, 81; *Gesetze*, i, 444–53 at 450.
[23] Screen, 'Anglo-Saxon Law and Numismatics', 158–59.
[24] II As 9 and 12.

Later references to the values of cows follow the same pattern as for oxen. On the twelfth-century Ramsey Abbey estates of Elton and Weston 2 cows are valued at 40d and 36d, respectively.[25] On the estates of St. Paul's, 2 cows on the manor of 'Edolvesnasa' were valued at 36d.[26] Since some cows were valued at 32d and 24d in the eleventh and twelfth centuries it is possible that the value of cows generally fluctuated between 20d and 40d throughout this period. However, we then see a dramatic rise in prices in the thirteenth century since cows were worth around 72d in 1200, 96d in 1250 and 108d by 1300.[27]

**Table 2: the value of cows, 924–1135**

| Name | Value in d | Date | Form of price | Place | Reference |
|---|---|---|---|---|---|
| Cow | 20 | 924–39 | – | – | VI As, 6.2 |
| Cow | 24 | 924–39 | – | South Welsh/English border | Dunsæte, *Gesetze*, i, 374–9 at 378 |
| Cow | 24 | 1125–28 | 1 cow or 2s | 'Tingwell', Cambs/Northants? | *Chronicon Petroburgense*, 158 |
| Cow | 32 | 1125–28 | 1 cow worth 32d | Oundle, Northants | *Chronicon Petroburgense*, 158 |

[25] *Cartularium Monasterii de Ramseia*, iii, 259–60, 311.
[26] *The Domesday of St. Paul's*, 131 and 132.
[27] Farmer, 'Prices and Wages', 747.

### 2.1.3 Pigs

Pigs were used for their meat and for their lard. This high proportion of fat, estimated to have been between 10 and 15% of their body mass during this period, meant that pig meat was relatively easy to preserve. Pigs were also useful in that they mainly fed on woodland and grass and not on grain which was essential for human needs.[28]

Table 3 shows two broad patterns regarding the value of pigs from 924 to 1135. The first shows pig values between 4½ and 10 pence. However, the second shows a much higher rate with pigs valued between 17 and 24 pence. The 24-pence pig from Bury St. Edmunds was a *fat* pig required for lard for the festival of St. Nicholas, so perhaps all three pigs at this higher price were fattened up which may have made them more valuable. There may also be the possibility of a regional variation in the price of pigs since chapter 5 demonstrates that East Anglia and Kent were highly monetised regions. However, the evidence is insufficient to form any hard conclusions.

The value of the boar at 5s (60d using the 12d shilling) in the *Leis Willelme* may be referring to the Mercian shilling of 4d (see page 52). If so it would make the boar worth 20d which would be more in line with the other entries in the table. However, it is worth repeating that this value should be treated with care. The final three entries in table 3 relate to the values of pigs on the St. Paul's manor of 'Ardele' in the mid-twelfth century. Since the pig at 8d (*sus*) was comparable to some of the pig values for the preceding two hundred years it is plausible to claim that the value of a baby piglet (*porcellulus*) at 1d may have been broadly similar between 924 and 1135.

[28] Hagen, *Food and Drink*, 122; W. Prummel, *Excavations at Dorestad 2: Early Medieval Dorestad. An Archaeozoological Study* (Amersfoort, 1983), 261.

**Table 3: the value of pigs, 924–1135**

| Name | Value in d | Date | Form of price | Place | Reference |
|---|---|---|---|---|---|
| Pig | 10 | 924–39 | – | – | VI As 6.2 |
| Pig | 8 | 924–39 | – | South Welsh/English border | Dunsæte, *Gesetze*, i, 374–9 at 378 |
| Pig (full grown) | 6 | Late C10 | – | Hatfield, Herts/Essex? | Robertson, *Charters*, App. II, no. 9 |
| Pig | 4½ | Late C10 | 80 swine for 360d | Milton, Cambs | Robertson, *Charters*, App. II, no. 9 |
| Pig | 8 | 1086 | – | Wales | GDB 162b (Gloucestershire W:8) |
| Pig | 17 | ? | – | Bury St. Edmunds | Robertson, *Charters*, App. II, no. 8 |
| Fat pig | 24 | 1065–98 | 2 fat pigs or 48d for lard | Bury St. Edmunds | *EHD*, ii, no. 175 |
| Boar | 60? | 1130s? | In payment for wergild a boar at 5s | – | *LW* 9.1 |
| Pig (sow) | 8 | *c.* 1141 | – | Ardele, St. Paul's | *The Domesday of St. Paul's*, 138 |
| Piglet | 4 | *c.* 1141 | – | Ardele, St. Paul's | *The Domesday of St. Paul's*, 138 |
| Baby Piglet | 1 | *c.* 1141 | – | Ardele, St. Paul's | *The Domesday of St. Paul's*, 138 |

The later twelfth-century evidence for the values of pigs shows that prices remained constant. From the estates of St. Paul's, 1 pig was valued at 3d and 2 were valued at 4d. These were perhaps younger pigs since the remainder were valued at 5d (1), 6d (1), 8d

(3), 10d (2) and 12d (2).[29] Prices were still relatively stable by the year 1200 since pigs were valued at around 12d. The thirteenth-century inflation doubled pig values within 10 years to 24d but rather than seeing further rapid price rises, the pig appears to have been worth between 30 and 36d from the 1230s until well into the fourteenth century.[30]

References to pig ownership in the documentary evidence between 924 and 1135 reveal that the peasantry kept pigs on a wide scale. The Tidenham estate survey states that the *gebur* who had 7 pigs gave 3 and then afterwards every tenth.[31] In the *RSP* the *geneat* owed 1 pasturage swine every year, and the Domesday counties of Surrey and Sussex record payments of 1 pig in 7 by the *villani*.[32] The Shaftesbury Abbey estate survey of 1127 x 1130 also records payments made by the *villani* and *cotseti* according to the number of pigs they kept (see pages 121–2).[33] Ownership of 7 pigs meant assets worth around 28 pence if they were young pigs and between 42 and 70 pence if they were fully grown. If the pigs were of the higher valued variety then 7 pigs at 24 pence could equal assets of up to 168 pence.

### 2.1.4 Sheep

Sheep were the most numerously recorded livestock animal in Domesday Book.[34] Whilst pigs represented a more bountiful and conservable food source, sheep were nonetheless a further supply of meat. They also provided wool to clothe the population

[29] *The Domesday of St. Paul's*, 123–38. Data excludes that of 'Ardele'.
[30] Farmer, 'Prices and Wages', 747.
[31] Robertson, *Charters*, no. 108.
[32] *Gesetze*, i, 444–453 at 445; N. Neilson, *Customary Rents*, Oxford Studies in Social and Legal History, ed. P. Vinogradoff, vol. 2 (Oxford, 1910), 68–69.
[33] N. E. Stacy (ed.), *Charters and Custumals of Shaftesbury Abbey, 1089–1216* (Oxford, 2006), 92, 96, 97–98, 108, 116, 117.
[34] Darby, *Domesday England*, 164.

and, debatably for this period, for international export. The figures in table 4 show that the average value of a sheep was between 2½ and 5 pence. The second and third entries in table 4 show compensation values for sheep (at 5d) which are higher in value than the sheep in the first, sixth and seventh entries. This may reflect a penalty value. However, the value of a sheep in 1130 (the final entry in table 4) is also 5d, and it has been shown on page 53 that the compensation values of oxen do not differ significantly from those at market value. Furthermore, the value of sheep may have been relatively stable for around half a millennium, for the law code of Ine of Wessex (688–726) values a ewe with her lamb at 4d.[35]

Later price evidence for sheep shows a plateau throughout the twelfth century followed by an increase in the thirteenth. On the twelfth-century Ramsey Abbey manors of Girton, Cambs., and Hemmingford Abbots, Hunts., a sheep was worth 4d and at Brancaster, Norfolk, 6d.[36] The evidence of the mid-twelfth century leases of St. Paul's shows that of the 10 sheep given a value, 8 were worth 4d and 2 were worth 5d.[37] At the start of the thirteenth century the sheep was worth about 6d but by 1250 its value had doubled to 12d. By the fourteenth century a sheep was worth about 18d.[38]

Harvey has estimated that about two-thirds of the sheep population in Domesday England was farmed in demesne; but if so, one third of the sheep population was owned by modest landholders.[39] It is demonstrable that the lowest classes of peasant

[35] Ine 55.
[36] *Cartularium Monasterii de Ramseia*, iii, 261, 277 and 313.
[37] *The Domesday of St. Paul's*, 123–38.
[38] Farmer, 'Prices and Wages', 747. Values estimated from the inclusive purchase prices of 2 ewes and 2 wethers.
[39] Harvey, 'Domesday England', 125.

owned sheep. In the late-eleventh century survey of Lambourn there is reference to a tithe of pigs and sheep, payable from both the demesne and peasant lands.[40] Domesday Book also records customary dues to be paid in sheep.[41] More concretely, the Shaftesbury Abbey estate survey reveals that the *villani* on the manor of Cheselbourne had to contribute 1 penny for every 4 of their sheep grazing on the lord's pasture land at the feast of St Peter ad Vincula (1 August) and that the *cotseti* had to contribute 1 penny for every 15.[42] Sheep represented capital in the same way as pigs, so any peasant owner of sheep would be holding assets worth multiples of 2½ to 5d.

[40] Robertson, *Charters*, Appendix I, no. 5.
[41] Harvey, 'Domesday England', 125.
[42] Stacy, *Shaftesbury Abbey*, 97–98.

**Table 4: the value of sheep, 924–1135**

| Name | Value in d | Date | Form of price | Place | Reference |
|---|---|---|---|---|---|
| Ram | 4 | 924–939 | Ram worth 4d | – | Ordinance Relating to Charities, *Laws of the Earliest English Kings*, 126–7 |
| Sheep | 5 | 924–939 | Shilling[43] | – | VI As 6.2 |
| Sheep | 5 | 924–939 | – | South Welsh/English border | Dunsæte, *Gesetze*, i, 374–9 at 378 |
| Young sheep | 2 | *c.* 900–950 | Young sheep or 2d | Bedwyn, Wilts | *EHD*, i, no. 138 |
| Young sheep | 2 | *c.* 1000 | Young sheep or 2d | Wiltshire? | *RSP*, *Gesetze*, i, 444–53 at 446–7 |
| Sheep | 3 | *c.* 1000 | 1 sheep or 3d for winter food | Wiltshire? | *RSP*, *Gesetze*, i, 444–53 at 450 |
| Sheep | 2½ | 1086 | 24 sheep or 5s | Bossington and Allerford, Somerset | *Exon.*, p. 473 |
| Sheep | 5 | 1130 | For 1,500 sheep £30 8s 4d | Berkshire | PR 31 Henry I, 96 |

### 2.1.5 Goats

Goats were used as meat and milk sources. They were usually found on estates which had a sheep population but were much less numerous.[44] The only reference to the price

[43] This is probably the West-Saxon shilling of 5 pence. The sheep is the final value in the list of compensations for livestock in VI Athelstan and it comes after the pig valued at 10d. The shilling is therefore unlikely to be 12d. Furthermore, VI Athelstan is also known as the London Ordinance and in the 880s Alfred captured London for the West-Saxon kingdom.

of a goat in this period comes from the tenth-century *Dunsæte* where it is valued at 2d.[45] The twelfth-century Domesday of St. Paul's values the goat both at 4d and 6d, so on this basis its value is broadly comparable to the sheep.[46] On the Peterborough Abbey manor of Kettering from 1125–28 the *cottars* possessed goats since they were liable to pay 1 penny for a male goat and ½ penny for a female goat.[47]

The foregoing analysis suggests livestock prices remained relatively stable over the two-hundred-year period of this thesis – confirming a point suggested Mayhew on the basis of Harvey's eleventh-century price list.[48] The prices of cows and pigs shows that there was some variation, perhaps related to the breed, age or quality of the animal involved, but they were minimal in comparison to the sustained price increases from the beginning of the thirteenth century.

## 2.2 Horses

Horses in Anglo-Saxon and Norman England were used for riding, carrying, carting, ploughing and harrowing. On the basis of limited archaeological finds relating to London, horses from the period *c.* 1150–*c.* 1450 were, on average, slightly smaller than their modern counterparts.[49] The sources which elucidate horse values in this period reveal that there could be considerable variation in their prices but it is sometimes difficult to tell the precise function of a horse from the records. This is why the recorded values of horses are divided into two tables. The first gives the values of

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[44] Hagen, *Food and Drink*, 99–102.
[45] *Gesetze*, i, 374–79 at 378.
[46] *The Domesday of St. Paul's*, 123.
[47] *Chronicon Petroburgensis*, Appendix, 157.
[48] N. J. Mayhew, 'Modelling Medieval Monetisation', in *A Commercialising Economy*, 55–77 at 72–73.
[49] J. Clark (ed.), *The Medieval Horse and its Equipment, c. 1150–c. 1450* (Woodbridge, 2004), 22–23 and 170.

horses whose functions are specifically described (table 5). The second section relates to those horses whose function is ambiguous but which may have been used for riding and status enhancement (table 6).

### 2.2.1 Specifically-named horses

War-horses are the most valuable beasts in table 5. The war-horse in the *Libellus Æthelwoldi* was a gift from bishop Æthelwold to a thegn called Wulfnoth in the 970s. Those in the 1130 pipe roll (*dextarius*) valued at 640d and 480d relate to payments made to the king to ensure a fair trial. There has been debate over whether war-horses were merely ridden to battle in Anglo-Saxon England or whether they participated in action.[50] If the former view is valid then wealthy thegns like Wulfnoth may have enjoyed the ownership of such horses as status symbols to enhance their aristocratic standing. If the latter view is closer to the truth then we can also understand the value of the war-horse in terms of its special breeding for size and strength.

[50] For the former view see R. Allen Brown, 'The Battle of Hastings', in M. Strickland (ed.), *Anglo-Norman Warfare* (Woodbridge, 1992), 161–81 and R. P. Abels, *Lordship and Military Obligation in Anglo-Saxon England* (London, 1988), 65, 176, 268.; for the latter view see K. Cathers, 'An Examination of the Horse in Anglo-Saxon England', (University of Reading Ph.D thesis, 2002), 285.

**Table 5: the value of specifically-named horses, 924–1135**

| Name | Value in d | Date | Form of price | Place | Reference |
|---|---|---|---|---|---|
| War-horse | 480 | Late C10? | War-horse worth 3 marks | Ely, Cambs | *LE* ii.25 / *LÆ* 35 |
| Sumpter-horse | 240 | 1086 | 20s for a sumpter horse | Various | Domesday Book[51] |
| Huntsman's Horse | 240 | 1086 | For a huntsman's horse 20s | Northampton | GDB 219a (Northamptonshire B:36) |
| Wild Mare | 12 | 1086 | 12 wild mares are worth 12s | Sculthorpe, Norfolk | LDB 168 (Norfolk 8:98) |
| War-horse | 640 | 1130 | 4 silver marks or 1 war-horse | Devon | PR 31 Henry I, 124 |
| War-horse | 480 | 1130 | 40s for 1 war-horse | Northampton -shire; Devon | PR 31 Henry I, 67, 124 |
| Palfrey / Riding Horse | 360 | 1130 | 30s for 1 palfrey | Lincolnshire | PR 31 Henry I, 93 |
| Hunting Horse | 240 | 1130 | 20s for 1 hunting horse | Various[52] | PR 31 Henry I, 28, 47, 75, 90 |

Domesday Book describes 6 sumpter-horses (*summario*), or pack-horses, which are valued at 20s (240d) in six different shires. The sumpter-horse was evidently highly valued since it was worth a plough team of 8 oxen at 30d each. Perhaps their value can be explained on the presumption that sumpter horses were bred especially for their strength. Alternatively, sumpter horses may have had a premium because relatively wealthy traders were likely to have owned such animals. Domesday Book describes such

[51] GDB 64c (Wiltshire B:2); GDB 230a (Leicestershire C:4); GDB 219a (Northamptonshire B:36); GDB 238a (Warwickshire B:4); GDB 172a (Worcestershire C:2); GDB 154d (Oxfordshire 1:12).
[52] Northumberland, Hertfordshire, Norfolk, Lincolnshire

traders selling salt by horseback in the Nantwich area.[53] Mid-twelfth-century evidence suggests lower values for pack-horses. Between 1158 and 1163, a certain Richard of Anstey spent large sums of money on a suit in order to recover lands which had been bequeathed to him by his uncle. In his expenses list he recorded the loss of 2 pack-horses, one worth 9 shillings (108d) and one worth 12 shillings (144d).[54]

Horses for hunting, the *equo venatrio* of Domesday Book and the *fulgator* of the 1130 pipe roll, were also valued at 240d and may derive their values from their qualities in the hunt as opposed to carting or draught work. Hunting was a preserve of the aristocracy and it is probable that only the elites would have been able to own such a horse at this value in the same way that thegns would have owned war-horses. The lowest valued horse is the wild mare (*equa silvatica*) at 12d. If *silvatica* is indeed translated as 'wild' then these horses may have needed breaking or taming if they were to be used for breeding.[55] However, *silvatica* may refer to 'woodland' or 'forest', which may mean that they were smaller woodland ponies.[56]

### 2.2.2 Other horses

The values of five horses in this group relate to legal compensations. The clause describing the horse in VI Athelstan reads as follows:

Emban ure ceapgild: hors to healfan punde, gif hit swa god sy; 7 if hit mætre sy, gilde be his wlites wyrðe 7 be þam þe se man hit weorðige þe hit age, buton he gewitnesse habbe, þæt hit swa god wære swa he secge; 7 habbe þone ofereacan þe we þar abiddan

[53] GDB 268a (Cheshire S3:3).
[54] *EHD*, ii, no. 55.
[55] Harvey, 'Domesday England', 124.
[56] Cathers, 'Examination of the Horse', 150.

[With reference to indemnities for livestock, we reckon a horse a half a pound, if it is worth so much; but if it is less valuable it shall be paid for according to the value suggested by its appearance, and what is approved by its owner, unless he can produce evidence that it is as good a horse as he says; in that case he shall have such additional sum as we are awarded in the suit].[57]

This demonstrates that horses were, as one might expect, rationally priced according to the age and condition of the animal. Similar compensation values are attributed to the fully-grown horses in the *Dunsæte*. The male horse (*hors*) was worth 120d, the female (*myran*) 80d, and a young horse (*wintersteahl*) 80d.[58] The *Dunsæte* also describes *wilde weorf* which may either refer to a young wild ass or donkey, or wild cattle.[59] The final compensation value for a horse comes from the *Leis Willelme* where the price of a horse (*cheval*) as payment for a wergild was 240d using the 12d shilling. However, if the Mercian shilling of 4d is used then the horse would be valued at 80d (see page 52).

[57] VI As 6.1. Attenborough's translation, *Laws of the Earliest English Kings*, 161.
[58] http://bosworthtoller.com/finder/3/wintersteal
[59] http://bosworthtoller.com/finder/3/weorf

**Table 6: the value of other horses, 924–1135**

| Name | Value in d | Date | Form of price | Place | Reference |
|---|---|---|---|---|---|
| Horse | 120 | 924–39 | Half a pound | – | VI As 6.1 |
| Horse | 120 | 924–39 | 30 shillings[60] | South Welsh/English border | Dunsæte, *Gesetze*, i, 374–9 at 378 |
| Female Horse | 80 | 924–39 | 20 shillings | South Welsh/English border | Dunsæte, *Gesetze*, i, 374–9 at 378 |
| Young horse | 80 | 924–39 | 20 shillings | South Welsh/English border | Dunsæte, *Gesetze*, i, 374–9 at 378 |
| Young wild donkey? | 48 | 924–39 | 12 shillings | South Welsh/English border | Dunsæte, *Gesetze*, i, 374–9 at 378 |
| Horse | 120 | Late C10? | A horse worth 10 shillings[61] | Ely, Cambs | *LE* ii.11 / *LÆ* 13 |
| Horse | 240 | 1130 | 20s for 1 horse | – | PR 31 Henry I, 34 |
| Horse | 240? | 1130s? | A horse as the equivalent of 20s | – | *LW* 9.1 |

Gillingham has drawn attention to the use of the horse in his discussion of the gentry in eleventh-century England. He argues that many historians have been preoccupied with the horse as an object of war and chivalry and that they have tended to underestimate the value of the horse in performing escort duty, guard duty and messenger and hunting services. Gillingham argues that the latter were in fact notable and noble services which were performed not only by thegns but by the high-status free men described in the

[60] The shillings are probably Mercian shillings of 4d since the *Dunsæte* regulated interactions between the Welsh and English near the river Wye in south Wales. The English counties bordering south Wales historically belonged to Mercia.

[61] Nightingale notes that 12-pence shillings are found in the *Libellus Æthelwoldi*, 'The Ora, the Mark and the Mancus', ii, 236; E. O. Blake (ed.), *Liber Eliensis* (London, 1962), xvii, 89, 90 and 98.

*RSP* as *geneats*.[62] Whilst *geneats* may have performed tasks such as reaping, mowing and cutting deer hedges for their lords, they also had to perform more honourable services such as guarding their lord, looking after his horses, performing carrying services and carrying messages for him.[63] For Gillingham, these services would have been owed by the class of people called 'cnihts' who were either attached to a lord's household or at least saw some active service within it.[64] Attachment to a household would provide a means to social advancement and it may have been this class of people who owned the 'other horses' in table 6 since they may have been in a position to afford them.

A final class of horse can be seen on the twelfth-century estates of Ramsey Abbey and St. Paul's, namely the harrowing horse. At Ramsey, 3 *equus occatores* were valued at 48d, 36d and 36d, and on the St. Paul's manors of Caddington and 'Keneswurda' the *hercarium* was valued at 36d.[65] These horses were not included in tables 5 or 6 because their values may have reflected those of the mid and later twelfth century. However, the *hercarium* at Caddington may indicate the value of a harrowing horse during the reign of Henry I (36d) since this value was drawn from a lease composed no later than 1138.[66]

This section has shown that the price of horses was subject to greater variety than the prices of other livestock. This is principally because different breeds of horse were needed for different tasks, and because age and condition were also factors to be taken into consideration when horses were bought and sold. Furthermore, the evidence of the

[62] J. Gillingham, 'Thegns and Knights in Eleventh-Century England: who was then the Gentleman?', *TRHS*, 5 (1995), 129–53 at 137–42.
[63] *Gesetze*, i, 444–53 at 445.
[64] Gillingham, 'Thegns and Knights', 140–41.
[65] *Cartularium Monasterii de Ramseia*, iii, 279 and 313; *The Domesday of St. Paul's*, 124 and 128.
[66] *The Domesday of St. Paul's*, xliii.

mid twelfth-century pack-horses warns us that whilst some pricing evidence is better than none for the period 924–1135, it may hide patterns of price movements which we will never be able to uncover.

## 2.3 Food

References to food values are relatively sparse in the documentary record. However, there is real worth in analysing the available evidence for two reasons. Firstly, because food is a basic human necessity, its value will bring us closer to the medieval population in its entirety since everyone needed to consume it. Secondly, the divisibility of food makes it possible to calculate how much 1 penny could buy. The food types for which we have values were measured in a wide variety of arcane units of weight and capacity, and an annex is attached which uses contemporary and near contemporary records to calculate the weights and capacities of these units.

### 2.3.1 Salt

Salt, being essential to human nutrition, was one of the foodstuffs that everybody had to have access to.[67] It was also valuable since it made it possible to preserve food, especially meat. One source of salt was from the sea, and Domesday Book demonstrates that from Devon round to Lincolnshire there were many salt pans in the counties with coastlines.[68] It is sea salt which the amber contains in table 7. Another source of salt was from inland salt-producing areas. In England there were two major centres: at Droitwich in Worcestershire and at Nantwich in Cheshire. Sea salt was

[67] D. Banham, *Food and Drink in Anglo-Saxon England* (Stroud, 2004), 39–41.
[68] Hooke, *Landscape*, map displaying salt works and mineral resources of Anglo-Saxon and Domesday England on 205.

coarser and cheaper than its inland counterpart and was apparently put to best use for the purposes of meat preservation.[69] Finer, whiter salt was produced at the inland sites and Domesday Book shows us that Droitwich salt production assets were valuable to lords. For example, King Edward the Confessor had 97 salt pans for a farm of £52 whilst earl Edwin of Mercia had 51½ salt pans which rendered £24 per annum.[70] The boiling, *mitta*, *sester* and *summa* of salt in table 7 all relate to this second category of salt.

The *mitta* and the *summa* were terms used to denote horse-loads. It has been estimated that a horse in this period could normally carry between 100 and 150 kilograms (kg) on its back; on this basis, 1 penny appears to have bought 100–150kg of salt in these instances.[71] Hagen has recently argued that the *amber* in this period was a unit of measurement which weighed 2 hundredweight, which is just over 100kg.[72] This tallies well with the *mitta* and *summa* evidence since the amber of salt was also valued at 1 penny. However, sea salt was supposed to be cheaper than that from inland sources so it is possible that the amber may have been a slightly larger unit of capacity. The *sester* of salt is also problematic. Henry of Huntingdon equated the dry-capacity measure of the sester with the horse-load but the value given for the *sester* of salt in Domesday Book is ½d, which is half the value of the *mitta* and *summa* of salt.[73] Liquid measures for *sesters* in Domesday Book demonstrate that regional variation could occur between capacity-units of the same name (see page 358), so perhaps the *sester* of salt at Thornbury was only half as large as the *mitta* or the *summa*.

[69] J. Birrell, 'Procuring, Preparing and Serving Venison in Late Medieval England', in C. M. Woolgar, D. Sergeantson and T. Waldron (eds.), *Food in Medieval England: Diet and Nutrition* (Oxford, 2006), 177–88 at 181–82.
[70] Whitelock, *Beginnings*, 115–16; GDB 172b (Worcestershire 1:3a); GDB 172c (Worcestershire 1:3b).
[71] See appendix for details.
[72] Hagen, *Food and Drink*, 322–23.
[73] Henry of Huntingdon, *Historia Anglorum*, 374–75.

The most problematic value to quantify relates to the boiling of salt valued at 0.8d. This comes from a fine in Nantwich in which anyone committing an offence (*forisfecisset*) had to pay 24d or 30 boilings of salt. However, Domesday Book also states that 15 boilings of salt make a *summa*, which would create a 12d *summa* at 0.8d per boiling.[74] This is considerably more than the 1d *summa* of salt at Marden. Since the capacity of the *summa* as a horse-load is relatively secure it is difficult to reconcile this conundrum unless the *summa* meant something completely different in Cheshire than it did elsewhere.

**Table 7: the value of food, 924–1135**

| Food | Value in d | Date | Form of Price | Place | Reference |
|---|---|---|---|---|---|
| Salt (*amber*) | 1 | 1086 | 110 *ambers* of salt or 9s 2d | Washington, Sussex | GDB 28a (Sussex 13:9) |
| Salt (boiling) | 0.8 | 1086 | 2s or 30 boilings of salt | Nantwich, Cheshire | GDB 268b (Cheshire S1:5) |
| Salt (*mitta*) | 1 | 1086 | 60 *mittae* of salt for 5s | Much Marcle, Herefs | GDB 179d (Herefordshire 1:7) |
| Salt (*sester*) | 0.5 | 1086 | 40 *sesters* of salt or 20d | Thornbury, Gloucs | GDB 163d (Gloucestershire 1:47) |
| Salt (*summa*) | 1 | 1086 | 9 *summae* of salt or 9d | Marden, Herefs | GDB 179c (Herefordshire 1:4) |

[74] GDB 268b (Cheshire S1:4).

| Food | Value in d | Date | Form of Price | Place | Reference |
|---|---|---|---|---|---|
| Herring (50) | 1 | Late C10 | 2,000 herring for 40d | Thorney Abbey, Cambs | Robertson, *Charters*, App II, no. 9 |
| Herring (30) | 1 | 1086 | 4,000 herring or 10s | Sandwich, Kent | *St. Augustine's Inq*., 20[75] |
| Honey (*c.* 1 pint) | 1 | 1086 | 16 *sesters* of honey or 16s | Wiltshire | GDB 69a (Wiltshire 24p) |
| Honey (*c.* 1 pint) | 1 | 1086 | 6 *sesters* of honey, namely a *sester* at 15d | Warwick, Warks | GDB 238a (Warwickshire B:5) |
| Cheese (2–3 kg) | 1 | 1086 | 10 *weys* of cheeses worth 32s 4d | Buckland, Berks | GDB 58c (Berkshire 5:1) |
| Corn (¼ acre) | 1 | 1066 | 1 acre of corn or 4d | Stoke Mandeville, Bucks | GDB 143d (Buckinghamshire 3a:1) |
| Wheat (*sester*) | 55 | 1040 | 'the *sester* of wheat rose to 55 pence' | – | *ASC* E, *s. a.* 1039 (*recte* 1040) |
| Wheat (*sester*) | 60 | 1044 | 'a *sester* of wheat went up to 60 pence' | – | *ASC* C, *s. a.* 1044 |
| Dog loaves (15.6) | 1 | 1086 | 16s for 3,000 dog loaves | Cheltenham, Gloucs | GDB 162d (Gloucestershire 1:1) |

### 2.3.2 Herring

Herring are sea and ocean-going fish whose sizes range from approximately 10–40 centimetres and weigh up to 750 grams.[76] Table 7 shows that 1d bought 50 herring in the tenth century and 30 herring in the eleventh. Campbell has labelled the herring 'the

[75] *An Eleventh-Century Inquisition of St. Augustine's Canterbury*, ed. A. Ballard (Oxford, 1920), 20.
[76] H. McGee, *McGee on Food and Cooking: an Encyclopaedia of Kitchen Science, History and Culture* (London, 2004), 194.

potato of the Middle Ages'; a metaphor for its widespread consumption throughout society.[77] He points towards a tenth-century herring-processing industry in York, where the remnants of around 1,000 and 2,000 small herring were discovered on a post-hole covered floor, as an example of this.[78] Furthermore, the *harengarius* (herring-seller) was amongst the occupants of Winchester during the reign of Edward the Confessor, which may indicate that this fish was widely consumed.[79] However, Fleming has argued that herring may have been a more high-status food. She claims that herring fishermen, herring renders and herring bones in late Anglo-Saxon England were closely associated with the aristocratic elite.[80] Furthermore, she draws attention to the estate survey of Tidenham where the lord was able to command 'every rare fish (*seldsynde fisc*) which is of value-sturgeon (*styria*) or porpoise (*mereswyn*), herring (*healic*) or sea fish (*sæfisc*)', which may point towards the herring being an upper-class delicacy.[81] Whoever ate herring, an average of 40 to the penny is an instructive value which can also be thought of as 10 herring to the farthing.

### 2.3.3 Cheese

The Vale of the White Horse in Berkshire (now Oxfordshire) appears to have been a cheese making district in 1086 since the manors of Buckland and Kingston Lisle produced *weys* of cheese and the manor of Shellingford drew in £4 16s 8d from

[77] J. Campbell, 'Was it Infancy in England? Some Questions of Comparison', in Campbell, *The Anglo-Saxon State*, 179–99 at 190.
[78] R. Cramp, *Anglian and Viking York* (York, 1967), 18–19.
[79] J. Campbell, 'Domesday Herrings', in C. Harper-Bill, C. Rawcliffe and R. G. Wilson (eds.), *East Anglia's History: Studies in honour of Norman Scarfe* (Woodbridge, 2002), 5–17 at 6; Barlow, 'The Winton Domesday', 39; O. von Feilitzen, 'The Personal Names and Bynames of the Winton Domesday', in *Winchester in the Early Middle Ages*, 145–226 at 202; M. Biddle and D. J. Keene, 'Winchester in the Eleventh and Twelfth Centuries', in *Winchester in the Early Middle Ages*, 242–448 at 429–30.
[80] Fleming, 'The New Wealth', 5–6; R. Fleming, *Britain After Rome: The Fall and Rise, 400 to 1070* (London, 2010), 292, 298 and 300.
[81] Robertson, *Charters*, no. 108.

customary dues relating to cheese.[82] It is at Buckland where 10 *weys* of cheese worth 32s 4d were rendered to Bishop Osbern of Exeter.[83] The word *wey* is related to the words 'weigh' and 'wagon' and may represent a wagon-load, and according to my calculations the *wey* weighed around 80–105kg.[84] Therefore, if 1 *wey* equated to 38.8d then 1d would buy between 2 and 3kg of cheese.[85] The type of cheese is not specified yet it has been argued that the poor tended to eat fresh cheese whilst the rich ate mature.[86] If this is true then the cheese at Buckland may be the latter since this render was due to the bishop.

### 2.3.4 Honey

In 1086 Edward of Salisbury, sheriff of Wiltshire, was owed 16 *sesters* of honey or 16s as part of the renders due to him, valuing the *sester* at 12d. Similarly, the borough of Warwick rendered to King William a *sester* of honey valued at 15d. It has been suggested that *sesters* containing honey in the tenth and eleventh centuries weighed between 24 and 32 ounces (700–900 grams).[87] This evidence computes a penny's worth of honey at between 50 and 75 grams, which appears to be a rather modest amount. However, a recent re-examination of the evidence surrounding the *sester* by Hagen rejects these smaller estimates above in favour of a 15-pint *sester*.[88] Honey was the main sweetener of foods before the introduction of sugar, a key ingredient of mead and it was also used in

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[82] Darby, *Domesday England*, 144; GDB 58c (Berkshire 5:1); GDB 57d (Berkshire 1:32); GDB 59c (Berkshire 7:42).
[83] Grierson suggests that the scribe may have meant 33s4d, which would have yielded 10 *weys* for a rounder 400d and 1 *wey* for 40d. P. Grierson, 'Weights and Measures' in A. Williams (ed.), *Domesday Book: Studies,* Alecto Historical Editions (London, 1987), 80–85, 84.
[84] See appendix.
[85] Connor, *Weights and Measures*, 170; see appendix for full calculations.
[86] Hagen, *Food and Drink*, 265.
[87] *Leechdoms, Wortcunning and Starcraft of Early England*, ed. Rev. O. Cockayne, 3 vols. (London, 1866), iii, 92–93; *Select English Historical Documents from the Ninth and Tenth Centuries*, ed. F. E. Harmer (Cambridge, 1914), 79.
[88] Hagen, *Food and Drink*, 320–21.

the making of candles.[89] Honey may not necessarily have been plentiful but it was unlikely to have been in short supply.[90] Therefore, the 15-pint *sester* has been chosen as the more probable unit which computes a penny's worth of honey at around 1 pint.[91]

### 2.3.5 Corn and Wheat

Arable farming was the key component of the English economy, and a variety of crops were grown to produce the basic dietary staples of bread and beer.[92] Corn frequently appears in the documentary records as a form of render, which may have had its origins in the earlier Anglo-Saxon period when lords commanded food tributes from the populations under their control.[93] In 1066, 1 acre of corn (*annonæ*) or 4d was rendered by every sokeman in the 8 hundreds of Aylesbury to the church at Stoke Mandeville, Bucks, in what appears to be a churchscot payment (see page 140). This implies that 1d purchased the amount of corn contained within a square with sides measuring just over 30 metres.

Much more striking are the *sesters* of wheat valued at 55d and 60d. These seem very high amounts to have paid when considered next to the *sester* of salt at ½d. However, they *were* very high because this information comes from the *Chronicle* which was describing the famines of 1039 and 1044. The *Chronicle* also describes the situation in 1124 when there was a lack of corn:

[89] Darby, *Domesday England*, 277.
[90] Hagen, *Food and Drink*, 153–55.
[91] See Appendix A for fuller discussion.
[92] Hagen, *Food and Drink*, 41.
[93] Faith, *English Peasantry*, 4.

'In the course of this same year the weather in England was very bad for corn and all crops, so that between Christmas and Candlemas seed wheat for an acre – i.e. 2 seedlips – was sold at 6 shillings, and barley – i.e. 3 seedlips – at 6 shillings, and seed oats for an acre – i.e. 4 seedlips – at 4 shillings. That was because the corn was scarce, and the penny so bad that if a man had a pound at a market he could not by any means get the value of 12 pence for it'.[94]

The seedlip is a basket worn across the chest for carrying seed when sowing a field by hand.[95] It is difficult to gauge the capacity of the seedlip since I have not found any references to this end, but the importance of this excerpt lies in the final sentence; weather played a decisive role in determining crop yields, and when the weather was poor it sent the price of corn and grain soaring.

Unfortunately, there are no values for wheat during non-famine periods between 924 and 1135. Nevertheless, a tentative estimate of the price of a *sester* of wheat can be made from the closest available price evidence. The selling price of 2 quarters of wheat between 1160 and 1170 was 36d.[96] A quarter of wheat weighed approximately 480lbs, which is 218kg.[97] Therefore, 218kg of wheat was worth 18d and on this basis a *sester* of wheat at 100–150kg would have been worth between 8 and 12½d. This figure represents a potential ballpark figure for the period 924–1135 and does not take into account any price rises between 1135 and 1160 nor any price fluctuations based on weather. However, it illustrates that market prices were not completely stable and that weather could affect the value of commodities most dependent upon it. Dyer argues

[94] *ASC* E s.a. 1124. Whitelock's translation in D. Whitelock, D. C. Douglas and S. I. Tucker (eds.), *The Anglo-Saxon Chronicle* (London, 1961), 191.
[95] J. A. Simpson and E. S. C. Weiner, *The Oxford English Dictionary, vol. xiv: Rob–Sequyle* (Oxford, 1989), 874.
[96] Farmer, 'Prices and Wages', 719.
[97] http://www.unc.edu/~rowlett/units/scales/bushels.html and see page 358.

that since the chronicler used the monetary values of grain to portray these crises it suggests the power of the market not only on agriculture but on people's minds.[98]

## 2.4 Other objects and movables

The final section of this chapter discusses those objects and movables which do not fit under a convenient heading. They are divided into three broad areas in table 8; hawks, slaves and other.

**Table 8: the values of miscellaneous objects, 924–1135**

| Name | Value | Date | Form of price | Place | Reference |
|---|---|---|---|---|---|
| Hawk | 2,400 | 1086 | £10 or a hawk | Various | Domesday Book[99] |
| Hawk | 1,400 | 1086 | 2 marks of gold or 2 hawks | Pechingeorde, Surrey | GDB 36d (Surrey 36:1) |
| Hawk | 480 | 1130 | 40s to buy a hawk for the king's use | Huntingdon-shire | PR 31 Henry I, 37 |
| Slave | 240 | 924–39 | | – | IV As 6.5, 6.6, 6.7 |
| Smith | 150 | Late C10 | 5 mancuses of gold given for smith | Cambs/ Hunts | Robertson, *Charters*, App. II, no. 9 |
| Swine-herd | 120 | Late C10 | Swineherd worth half a pound | Milton, Cambs | Robertson, *Charters*, App. II, no. 9 |

[98] Dyer, *Making a Living*, 42.
[99] GDB 230a (Leicestershire C:4); GDB 219a (Northamptonshire B:36); GDB 154d (Oxfordshire 1:12); GDB 238a (Warwickshire B:4); GDB 64c (Wiltshire B:2); GDB 172a (Worcestershire C:2).

| Name | Value | Date | Form of price | Place | Reference |
|---|---|---|---|---|---|
| Man | 80 | Late C10 | Man worth 5 oras | Newton, Hunts | Robertson, *Charters*, App. II, no. 9 |
| Woman | 80 | Late C10 | Woman worth 5 oras | Stanground, Hunts | Robertson, *Charters*, App. II, no. 9 |
| Slave | 120 | *c.* 1075 | Half a pound and 4d toll | Bodmin, Cornwall | Pelteret, *Slavery*, xiv and 156 |
| Coffin | 80 | ? | | Bury St. Edmunds | Robertson, *Charters*, App. II, no. 8 |
| Ship? | 32 | Late C10 | 4 ships at 2 ores each | Cambs/ Hunts | Robertson, *Charters*, App. II, no. 9 |
| Ship? with nets | 32 | Late C10 | | Farcet, Hunts | Robertson, *Charters*, App. II, no. 9 |
| Chain for a well | 24 | 1130 | In buying a chain for a well 2s | Wiltshire | PR 31 Henry I, 13 |
| Pall (for the coffin) | 21 | ? | | Bury St. Edmunds | Robertson, *Charters*, App. II, no. 8 |
| Harrow | 16 | Late C10 | 3 harrows worth 3 oras | Cambs/ Hunts | Robertson, *Charters*, App. II, no. 9 |
| Wagon | 7 | Late C10 | 12 wagons for 80d | Cambs/ Hunts | Robertson, *Charters*, App. II, no. 9 |
| Buck (male deer) | 5 | ? | 1 ora for 3 bucks | Bury St. Edmunds | Robertson, *Charters*, App. II, no. 8 |
| Cow's bell | 4 | 959–75 | | – | I Edg 8 |
| Dog's collar | 4 | 959–75 | | – | I Edg 8 |
| Horn for blowing | 4 | 959–75 | | – | I Edg 8 |

| Name | Value | Date | Form of price | Place | Reference |
|---|---|---|---|---|---|
| Wool (½–1kg) | 1 | 959–75 | A *wey* of wool shall be sold for 120d | – | III Edg 8.2 |
| Building material (up to 300kg) | 1 | *c.* 900–950 | A cartload of building material or 2d | Bedwyn, Wilts | *EHD*, i, no. 138 |

### 2.4.1 Hawks

Hawks in Domesday Book were valued at between £6 and £10. The latter figure would have bought 80 oxen at 30d apiece or 96,000 herring at 40 to the penny, which is far larger than many annual manorial renders of herrings in Domesday Book.[100] Hawks could be lower in value as the pipe-roll evidence suggests, though £2 was still on par with the value of war horses. The values of hawks become more understandable when one considers that they were associated with the aristocracy and high status. Gillingham has drawn attention to the words of Eadmer of Canterbury who, when differentiating between the lives of earls and monks, described the former as 'keeping horses and going hunting with hawks and hounds'.[101] Owen-Crocker has also discussed the role played by hawk ownership as a physical manifestation of social rank.[102] Only the elites of society would have been able to buy or keep hawks at these values.

[100] Some renders of herring could be large, such as at Beccles, Suffolk where 30,000 herring were rendered in 1066 and 60,000 herring were rendered in 1086, GDB 370a (Suffolk 14:120). However, much smaller renders existed, such as at Brighton, Sussex where 4,000 herring were rendered as tribute in 1086, GDB 26c (Sussex 12:13).

[101] Gillingham, 'Thegns and Knights', 142; *Memorials of St. Dunstan*, ed. W. Stubbs (London, 1874), 238.

[102] G. R. Owen-Crocker, 'Hawks and Horse-trappings: the Insignia of Rank', in D. Scragg (ed.), *The Battle of Maldon AD 991* (Oxford, 1991), 220–37 at 220–29.

### 2.4.2 Slaves

The values of slaves are contained in the second section in table 8. Slaves were unfree and as such were treated as items of property. The numbers of slaves had been decreasing throughout the period 924–1135 (slavery was eventually abolished by the Normans) but they still represented around 10% of the recorded population in 1086.[103] The value of the slave at 240d from IV Athelstan is an inferred one. A slave guilty of theft, who had been stoned to death by 80 of his counterparts, was to be replaced with a new slave paid for with a levy of *tres denarius* ('three pennies') on each of these 80 slaves. Other slave values show variation. In the late tenth century a slave smith was worth 150d and it was perhaps his skill at the forge which made him more valuable than a swineherd at 120d or the unspecified man and woman at 80d each. The values of slaves are in the same approximate range as horses, so they were clearly valuable assets (they contributed to the seigniorial *valets* and *reddits* of Domesday Book even if they were not always enumerated in the text).

### 2.4.3 Miscellaneous

Arguably the most useful value in the miscellaneous section in table 8 is the harrow at 16d since this would have been a tool used by many peasant farmers in England. The harrow was used both to break down the larger lumps of earth created by ploughs and also to cover scattered seeds with earth. At 16d the harrow was worth between 3 and 6 sheep or between a half and a third of the value of a twelfth-century harrowing horse. These comparisons suggest that the value of the harrow was relatively substantial. If one

[103] Pelteret, *Slavery*, 76–77; Darby, *Domesday England*, 72.

needed to replace a broken harrow then it is probable that it would have consumed a large proportion of a peasant's annual income.

The 12 wagons (*wænas*) in table 8 were worth 80d which works out at just under 7d per wagon. Whilst the size and nature of the wagons in this text are unclear, the documentary sources reveal that carrying and carting was very common in England (see page 120). References to carts and cartloads of salt are common in Domesday Book, and the cartload of building material is discussed below.[104] Wagons (*saginarios* in Latin) are also mentioned in the south-western geld rolls of 1086 since they were needed to carry the money to the treasury at Winchester.[105] However, the wagons provided for Thorney Abbey probably relate to those needed for peasant carrying services.

In the early-tenth-century Bedwyn Guild Statutes, the burning of a house (presumably belonging to a guild member) required each pair of guild-brothers to contribute *fopor antimbres oppe twegen peniggas* ('a cartload of building material or two pence').[106] Two questions arise here: what does 'building material' refer to and how much is a cartload? Archaeological remains of houses in London and York in this period suggest that they were built of either wood or wattle. The roofs of such buildings were probably thatched with straw.[107] Therefore, the cartload of building materials may relate to wood, branches, twigs, straw or a mixture of all four.

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[104] GDB 268a (Cheshire S3:2); GDB 268a (Cheshire S3:3); GDB 268b (Cheshire 2:2).
[105] Williams, *Kingship and Government*, 145; *Domesday Book, seu Libri Censualis*, iv, 489.
[106] For the Old English version of the text see M. Förster, *Der Flussname Themse und seine Sippe* (Munich, 1941), 791–92; http://bosworthtoller.com/046217
[107] D. M. Palliser, T. R. Slater and E. Patricia Dennison, 'The Topography of Towns 600–1300', in *Cambridge Urban History*, 153–186 at 181–84.

The capacity of a cartload in this period is more problematic since there is no contemporary recorded data for it. However, it is possible to make an educated guess. In the late ninth century the toll on a cartload of salt at Droitwich was a Mercian shilling of 4d compared to the 1d toll on the horse-load.[108] In the late eleventh century at Northwich, Cheshire, the toll for a man from another hundred taking away a cartload of salt was 4d whilst the toll for a man from another hundred taking away a *summa* of salt was 1d. The toll for a man from the same hundred taking away a cartload of salt was 2d whilst the toll for a man from the same hundred taking away a *summa* of salt was ½d.[109] In each of these cases the ratio of toll between a cartload and a horse-load was 4:1. It may therefore be reasonable to assume that a cartload approximated to 4 times the capacity of a horse-load.[110] Since the horse-load or *summa* weighed roughly 100–150kg, the full capacity of a cartload may have been between 400–600kg. This means that 1d may have bought up to 200–300kg of building material if the cart were fully loaded.

The remainder of the objects and movables in table 8 are an eclectic mix. Two items which would have been encountered on a regular basis by many were wool and boats. The law code III Edgar states *7 ga seo wæge wulle to cxx p[ænig]', 7 nan man hig undeoror ne sille* ('and a *wey* of wool shall be sold for 120 pence, and no-one shall sell it at a cheaper rate'). I have argued that the *wey* weighed between 80 and 105kg, and on this basis 1d would have bought approximately ½–1kg worth of wool. The ship (*scip*) at 32d probably describes a fishing boat rather than anything bigger since in the same document a *scip* with nets (*7 to nettum*) was also valued at 32d. The *scip* is the same value as an ox or a

[108] Harmer, *Select Documents*, 22–23 for the text, 55 for the translation. See page 353 for further details.
[109] GDB 268a (Cheshire S3:2).
[110] Thanks must go to Neil Middleton for suggesting this method of calculation.

cow and it may have been as important to an estate that relied on fishing for sustenance and profit as an ox would have been to a much more arable-based estate.

## 2.5 Conclusion

We are now in a much better position to be able to say what money could buy from 924 to 1135. Table 9 summarises what 1 penny could buy:

**Table 9: the amount of recorded objects and movables that 1 penny could buy, 924–1135**

| *Livestock* | *Food* |
|---|---|
| 1/24 to 1/30 ox | 100–150kg salt |
| 1/20 to 1/36 cow | 1 pint honey |
| *c.* 1/8 pig or *c.* 1/24 pig | 2–3kg cheese |
| *c.* ¼ sheep | *c.* 40 herring |
| ¼ or ½ goat | ¼ acre corn |
| 1 baby piglet | *c.* 16 dog loaves |

| *Horses* | *Miscellaneous* |
|---|---|
| 1/480 war-horse | 1/2400 hawk |
| 1/80 to 1/240 'horse' | 1/80 to 1/240 slave |
| 1/240 pack-horse | 1/16 harrow |
| 1/240 huntsman's horse | 1/7 wagon |
| 1/12 wild mare | ½ to 1kg wool |
| *1/36 plough or harrowing horse* | Up to 300kg building material |

It is clear that objects such as hawks, slaves and war-horses are the most valuable in the table which reflects the classes of people who would have possessed them, namely royalty, the aristocracy and the religious elite. However, it is instructive to see the value of objects which most of the population would have come into contact with, such as pigs, salt and harrows. In this instance, the question over what a penny *could not* buy

comes into sharper focus. A penny could not have bought items such as a single chicken, an egg, individual vegetables, a pint of beer or a loaf of bread because it was simply too high in value. The smallest subdivision of a penny, the farthing, may have begun to approach the value of some of these items since it would have bought, for example, 10 herring. Nevertheless, compared with the recorded prices for livestock in the thirteenth and fourteenth centuries, the value of the penny from the tenth to the early twelfth centuries was higher by a factor of between 4 and 6.

Many foodstuffs would typically have been produced on peasant plots and this may have eliminated some of the need to purchase such items. However, this produce may have enabled peasants to conduct very low-level transactions by barter. Payments made in grain, eggs, chickens, vegetables, and so on was probably the means of exchange in very many circumstances both informally between peasants in villages and more formally at markets or in towns. In an alehouse, barter in small objects could have been used to purchase ale, though it may have been impractical to do so. If coin were used then credit may have provided a solution to this problem. For instance, customers in an ale house might open the equivalent of what is now known as a 'tab', settling up once he had consumed drink and food equivalent in value to a penny, halfpenny or farthing.

The relatively plentiful supply of price data from the livestock evidence appears to show stable prices across the period, although the horse and corn evidence demonstrates that price variation and fluctuation could occur. This suggests that prices were neither notional nor traditional but were determined by market forces. Nevertheless, the generally stable nature of prices prior to the thirteenth century prompted Mayhew to

consider whether there was an 'absence of marketing and commerce' in this period because economic activity and growth are often accompanied by price rises.[111] He argues against this view, suggesting that the economic structures visible at the beginning of the thirteenth century were already in place at the beginning of the eleventh.[112] I would concur fully with this argument since chapter 1 described a relatively complex and sophisticated market economy which had been developing since the tenth century. Mayhew then suggests that price rises and the subsequent commercialisation of the English economy from the end of the twelfth century was as a result of the release of Spufford's 'monetary brake'.[113] This was when large quantities of new silver discovered in central Europe in the 1160s dramatically increased the stock of currency circulating within England, which stimulated the growth in the number of markets and monetary transactions. This would seem like a plausible explanation though one would not want to underplay the degree to which market transactions occurred before the late twelfth century.

What can we glean from this chapter over the use of money at the lower levels of society? The *geburs* who owned 7 pigs in the *RSP* would have owned assets worth between 42d and 70d or possibly more, as would the *villani* holding 7 pigs in Domesday Surrey and Sussex. The *cottars* who paid dues for the goats they held on the Peterborough estates would have had assets worth between 2d and 6d each. This does not prove that these peasants used coins since barter was still a key method of exchange. For example, if a *villanus* wished to buy a new harrow at 16d he could have purchased this by bartering 2 pigs worth 8d. However, for such an exchange to take

111 Mayhew, 'Modelling Medieval Monetisation', 73–75.
112 Mayhew cites C. Dyer, 'The Hidden Trade of the Middle Ages: evidence from the West Midlands of England', *Journal of Historical Geography*, 18 (1992), 141–57.
113 Spufford, *Money and its Use*, 375.

place, the *villanus* would need to find a willing buyer for his pigs, who happened to possess and want to sell a harrow, and the two would need to agree on the exact equivalent value of their assets. Although conceivable in theory, this would be improbable in practice; so it would usally be simpler for the *villanus* to drive his pigs to market, sell them for coin, and then buy a harrow from another vendor. The simple truth is that markets and coins made trade more efficient; and the fact that much of the peasantry held assets which ran into the tens of pence makes it probable that they made use of them. Whilst a penny could not be used to buy everything, the idea that peasants did not use coin or were not involved in the money economy because the value of a penny was too high seems untenable.

## 3. The values of small-scale payments and services

The previous chapter concluded that the value of the penny was not so high as to preclude its use at the lower levels of English society. This chapter develops this proposition by analysing the value of small-scale payments and services recorded in documentary sources. It aims to establish what money could buy, and to consider how likely it is that coins were used in practice for small-scale transactions.

The chapter is thematically organised, and will examine the following in turn

3.1 Rural rents and dues. I shall use pre- and post-Conquest estate surveys to discuss the nature and value of payments to lords which relate to rural holdings. I will also examine the 'value' of land recorded in Domesday Book in different parts of England.

3.2 Urban rents and dues. Domesday Book, the survey of Winchester in *c.* 1110 and the chronicle of Battle Abbey yield precious data relating to the payments to lords due from urban tenements.

3.3 Church dues. Law codes were concerned with the enforcement of a range of renders to churches, and estate surveys and guild statutes demonstrate the nature and value of these payments in more detail.

3.4 Payments to the king and the state. The value of a number of public burdens and services will be analysed here using evidence from chronicles, estate surveys and Domesday Book.

3.5 Fines. These are sufficiently voluminous in the record to warrant separate treatment; law codes and Domesday Book are the chief documentary sources used here.

3.6 Tolls. Payments levied upon commercial activity and access to towns and waterways are illuminated by the law code known as IV Æthelred, Domesday Book and estate surveys.

## 3.1 Rural rents and dues

During the period in question, and indeed throughout the medieval period and beyond, there were broadly three principal ways in which lords could generate income from dependent peasants: through demanding labour, usually consisting of work on the lord's demesne (labour rent); through payments made in kind (e.g. payments in grain or any other form of agrarian produce); and through payments made directly in cash. Each of these forms of rent had an economic value, and ultimately enabled lords to generate cash by selling the product of their land on the market. The question at issue here is whether or not peasants were involved in the cash nexus by making regular payments to lords in coin as well as in labour and kind. This section demonstrates that many of the estate surveys datable to the period between the late tenth and early twelfth centuries specifically distinguish between rent and customary dues paid in labour, in kind and in cash in different combinations. This makes it very probable that the cash payments referred to in the surveys were indeed rendered in coin, and were not a notional assessment of the potential economic value of their rents and dues. Rents for tenancies, where they can be discerned, will be covered first in this section. Customary dues will be covered second.[1]

[1] The framework for analysing customary dues is borrowed from Neilson, *Customary Rents*, 7, even though her analysis covers thirteenth- and fourteenth-century evidence.

**Rents: the pre-Conquest surveys**

The most well-known pre-Conquest estate survey is the *Rectitudines Singularum Personarum* (*RSP*).[2] The sections relating to rent begin with the *geneat* who was expected to pay *landgafol* alongside some light services such as riding with the lord, reaping and mowing. Faith has argued that *gafol* was originally a tribute payment made to the king since it is visible in the Kentish and West Saxon law codes of the seventh century, and that when this royal due was surrendered into private hands *gafol* became synonymous with rent.[3] Stenton came to a similar conclusion when he argued that *gafolland* meant land rented by free peasants from the lord.[4] Unfortunately, the *RSP* does not state the *landgafol* value for the *geneat* or how he paid it.

The next passage in the text relates to the *ƀotsetla*. This tells us that *ne ðearf he landgafol syllan* ('he did not owe *landgafol*'), but that he owed 1 day of week-work to the lord rising to 3 days at harvest time alongside other boon-works. He also owed church-scot and *heorðpænig* (literally 'hearth-penny', interpreted as Peter's Pence, see pages 139–40 and 145–7). The next passage relates to the *gebur*.[5] The text is careful to state that the labour duties of the *gebur* vary from estate to estate yet here he owed 2 days week-work to the lord, rising to 3 from the feast of the Purification (2nd February) to Easter, alongside extra agricultural services. The *gebur* also rendered 23 sesters of barley, 2 chickens at Martinmas and *x gafol p[ænigas]* ('10 *gafol* pence') at Michaelmas, with the option of paying *ii p[ænigas]* ('2 pence') or a young sheep at Easter, as well as *heorðpænig*. The combination of different forms of rent, including cash, could not be clearer.

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[2] Liebermann, *Gesetze*, i, 444–53.
[3] Faith, *English Peasantry*, 105–06; see also R. H. C. Davis, 'East Anglia and the Danelaw', *TRHS*, 5th ser., 5 (1955), 23–39 at 33.
[4] Stenton, *Anglo-Saxon England*, 261–62n.
[5] Liebermann, *Gesetze*, i, 446–48.

*RSP* is not alone in this respect. The Tidenham survey of Gloucestershire records that every *gebur* owed 6 sesters of malt at Lammas (1st August), a ball of net yarn at Martinmas and *vi penneg[as]* ('6 pence') and half a sester of honey at Easter.[6] The survey of Lambourn, Berkshire, populated by *geneats* and *geburs*, records that a *wey* of cheese was owed from each hide at Michaelmas (29th September); that 2 sesters of corn and a pig were owed at Martinmas; and that *xv panigas* ('15 pence') was owed at Easter.[7] It is not clear whether these were 'rental' payments paid at various instalments, or religious dues, such as churchscot at Martinmas, but the combination of payments made in cash and in kind is again explicit.

Similarly, at Hurstbourne Priors, Hampshire, the *ceorlas* rendered various payments in kind, and at the autumnal equinox every hide ought to have rendered *feorwerti penega* ('40 pence') together with 6 church *mittan* of ale and 3 sesters of wheat for bread.[8] Similar labour obligations and payments in kind were due from the *geneats* and *geburs* on the manor of Tidenham, but the text also states that *xii pæneg[as]* ('12 pence') was due from every yardland throughout the estate, together with *iiii ælmespeneg[as]* ('4 alms-pence').[9] The 12-pence payment resembles the 10-pence *gafol* payment in the *RSP* and the 40-pence payment from the hide at Hurstbourne Priors (since 4 yardlands or virgates typically comprised a hide).[10]

[6] Robertson, *Charters*, no. 109 and page 451.
[7] Robertson, *Charters*, App. I no. 5.
[8] Robertson, *Charters*, no. 110. Robertson notes the unusual spelling of *feorwerti*, 206n.
[9] Robertson, *Charters*, no. 109.
[10] Lennard, *Rural England*, 367–68.

It remains theoretically conceivable that the peasants on these estates in practice made payments in kind equivalent to the value of the cash rents expected of them. However, the level of precision and detail with which different forms of rent are described in these texts commends the view that this was not the case. It would appear that those who wrote these surveys had a clear understanding of the distinction between different kinds of rent, and that it was usual for peasants to make payments in coin.

## Rents: the Early Twelfth-Century Surveys

Estate surveys relating to the Abbeys of Burton, Shaftesbury, Ramsey, Peterborough and Caen survive from the reign of Henry I which elucidate the nature and values of rural rents in more detail than any documents prior to this date. I shall analyse the surveys of each establishment individually to generate, where possible, the values of peasant rents per acre and also for the size of the holding.

### *Burton Abbey*

The estates at Burton Abbey, distributed across Derbyshire, Leicestershire, Staffordshire and Warwickshire, were surveyed twice during the reign of Henry I. Survey B relates to the period 1114 to 1118, and survey A was compiled in approximately 1126.[11] Survey B states that *villani* held bovates *ad opus* ('for work'), that is in return for labour on the lord's demesne. If the *villanus* held 2 bovates, he usually performed 2 days labour per week; if he held 1 bovate, he usually performed 1 day's labour. In addition, the *villanus* was expected to perform other duties including carrying

[11] *EHD*, ii, no. 176 at 884; see also J. H. Round, 'The Burton Abbey Surveys', in *Collections for a History of Staffordshire*, William Salt Archaeological Society (1906), 269–289.

salt and fish, carting 1 load of wood, ploughing twice in the year and half an acre at Lent, and finding a man to reap in August.[12] Some of these additional services could be commuted to cash payments (see page 120). There were also *cottars* (*cotseti*) present who typically held their lands for 1 day of labour per week, as well as *bovarii* ('ox-herds') who held their lands for their services and a further 1 day of labour per week.

Other tenants held their lands *ad malam* ('for rent') and were called *censarii* ('rent-payers'). The entry for Burton states:

Censarii isti sunt: Willelmus de Sobehalle tenet ii bovatas pro ii solidis, et debet ire ubicumque mittitur, aut cum abate aut sine abate. Tintor habet ii bovatas pro ii solidis et vi denariis et debet bis in anno prestare aratrum suum et ter in Augusto secare duabus vicibus cum i homine, tercia cum omnibus suis ad cibum domini, et uxor Adelon i die. Stevin ulfus ii bovatas pro iii solidis. Uctebrand similiter debet prestare quadrigam suam ad quadrigandum fenum dominicum. Aluric cocus, Aluricus pistor, Ulwinus cementarius, quisque tenet ii bovatas pro ii solidos, et debet facere easdem consuetudines. Lepsi pistor, Alsius cocus, Ulsi gardiner, Godricus carpentarius, quisque i bovatam pro xii denariis et debet predictas consuetudines, Wardebois ii bovatas et iii acras prati pro solidatas suis; scilicet duobus solidis.

[The rent-paying tenants are these: William of "Sobehalle" holds two bovates for 2 shillings and must go wherever he is sent, either with the abbot or without the abbot. The chief ox-herd holds two bovates for 2 shillings and 6 pence, and twice a year he must lend his plough; and thrice in August he must reap, twice with 1 man and the third time with all his household, with the lord providing their food; and the wife of Aldeon shall reap for one day. Stevinulf holds two bovates for three shillings. Uctebrand likewise must lend his cart for carting the demesne hay. Aluric the cook, Aluric the baker and Ulwin the mason each hold 2 bovates for 2 shillings and

[12] C. G. O. Bridgeman, 'The Burton Abbey Twelfth Century Surveys', in *Collections for a History of Staffordshire*, William Salt Archaeological Society (1916), 209–300 at 212–13; *EHD*, ii, no. 176.

must perform the same customs. Lepsi the baker, Alsi the cook, Ulsi the gardener and Godric the carpenter each hold one bovate for 12 pence, and owe the same customs. Wardbois holds 2 bovates and 3 acres of meadow for his rent, that is to say, for 2 shillings].[13]

The *censarii* of the Burton B survey therefore paid cash rent for 1 or 2 bovates, as well as performing occasional labour services. The modal payments per bovate were 12d and 18d. Several passages in the surveys explicitly record the size of bovates. The smallest was at Stretton, Derbyshire, in the A survey where Soen holds *viii acras, id est bovatum, pro xii denariis* ('8 acres, which is a bovate, for 12 pence'). The largest bovate is given in both surveys at Stretton super Dunsmore, Warks., where the abbey has *iiii bovatas de Inlanda id est lxv acras* ('4 bovates of inland, which is 65 acres') which produces a bovate of 16¼ acres.[14] Therefore, the rental value per acre ranged between ¾ to 2¼ pence. Intriguingly, Bartlett has drawn attention to the fact that a *censarius* called Godric the smith in the B survey for Stapenhill, Staffordshire, paid rent for 2 bovates, and that a 'Godric the smith' also held 2 bovates for work as a *villanus*. Bartlett suggests that this was probably the same man.[15] It is therefore possible that the *villani* and *censarii* were the same class of tenant and were only differentiated by the means with which they held their land.

Most manors in the Burton surveys have a similar acreage value though there are some variations to this pattern.[16] Towards the end of the survey the unit of land measurement

[13] Bridgeman, 'The Burton Abbey Twelfth Century Surveys', 213–14; Douglas's translation, *EHD*, ii, no. 176.
[14] Bridgeman, 'The Burton Abbey Twelfth Century Surveys', 219, 247, and 281.
[15] R. Bartlett, *England Under the Norman and Angevin Kings, 1075–1225* (Oxford, 2000), 327. Bridgeman, 'The Burton Abbey Twelfth Century Surveys', 238–39.
[16] Bartlett shows that the average value per acre at the Burton Abbey estate at Stapenhill was between 1 and 2¼ pence, *Norman and Angevin Kings*, 328; Lennard, *Rural England*, 378.

switches from bovates to virgates but the payments continue along a similar order of magnitude. In the B survey for Caldwell *Elwinus diaconus i virgatum pro ii solidos* ('Elwin the deacon [holds] 1 virgate for 2 shillings'). In the A survey for Appleby we are told *de his [virgatas] que sunt ad opus tenent undecim villani plenarii xii virgatas, id est unus quisque ii bovates* ('of these virgates which are held for work 11 full *villani* hold 12 virgates, and each one is 2 bovates').[17] Elwin's virgate therefore computes to between ¾ and 1½ pence per acre.

Domesday Book covers some of the manors described in the Burton Abbey surveys, and Bridbury has compared the *valets* and *reddits* of the former to the totals of the *censarii* rents from the corresponding manors in the B survey. He also compares both to the farm accounts in the B survey.

[17] Bridgeman, 'The Burton Abbey Twelfth Century Surveys', 244.

**Table 10: Bridbury's comparison between the values of Burton Abbey's Domesday manors and the values of *censarii* renders in the Burton Abbey B survey[18]**

| | Domesday Book | | | *Censarii* | | | Farm | | |
|---|---|---|---|---|---|---|---|---|---|
| | £ | s | D | £ | s | d | £ | s | d |
| Burton | 3 | 10 | 0 | 4 | 3 | 8 | – | – | – |
| Branston | 2 | 0 | 0 | 0 | 14 | 0 | 5 | 0 | 0 |
| Stretton | 2 | 0 | 0 | 4 | 6 | 4 | – | – | – |
| Wetmore | 2 | 10 | 0 | 2 | 4 | 4 | – | – | – |
| Abbot's Bromley | 1 | 0 | 0 | 0 | 18 | 0 | 3 | 10 | 0 |
| Okeover and Ilam | 1 | 0 | 0 | 1 | 11 | 9 | – | – | – |
| Leigh | 2 | 0 | 0 | 1 | 16 | 0 | 5 | 0 | 0 |
| Darlaston | 1 | 7 | 2 | 1 | 8 | 0 | 2 | 0 | 0 |
| Mickleover and Littleover | 10 | 0 | 0 | 3 | 14 | 6 | – | – | – |
| Stapenhill | 3 | 0 | 0 | 1 | 6 | 3 | – | – | – |
| Winshill | 3 | 0 | 0 | 3 | 10 | 8½ | 4 | 0 | 0 |
| Appleby | 3 | 0 | 0 | 1 | 8 | 0 | – | – | – |
| Totals | 33 | 27 | 2 | 21 | 118 | 42 | 19 | 10 | 0 |

Bridbury notes that the rental and farm accounts are incomplete for Branston, as is the farm account for Abbot's Bromley, and that the Appleby account is disordered. Nevertheless, his findings appear to show reasonably close correspondence between the Domesday values and the *censarii* rents, which may suggest that the Domesday *valets* for Burton only recorded the cash renders from the *censarii* and little from the wealth that labour rents would have generated from the demesne.[19] This is even more noteworthy considering that Domesday Book does not enumerate the *censarii* within its manorial population. If Bridbury's interpretation is correct then it suggests that the *censarii* rents at Burton remained fairly static between 1086 and the first quarter of the twelfth century: a conclusion which accords with the relatively static values of objects and movables discussed in chapter 2. However, there are greater differences between the

[18] A. R. Bridbury, *The English Economy from Bede to the Reformation* (Woodbridge, 1992), 127.
[19] Ibid., 115.

Domesday values and the B survey farms for Branston, Abbot's Bromley and Leigh, which may suggest that wealth created from the demesne was taken into account in these instances.

An indicator of the importance of cash renders to Burton comes from the A survey where some of the manorial accounts give details of the number of bovates held for work by *villani* and the number held for rent by *censarii*. Approximately 55% of bovates were held for rents. This suggests that the payment of rents in coin was a significant strategy in terms of extracting wealth from the estates of Burton Abbey from the early twelfth century if not before.[20]

**Table 11: number of bovates held for work and for rent in the Burton Abbey A survey[21]**

| Manor | Work | Rent |
|---|---|---|
| Burton | 15 | 15 |
| Branston | 11 | 15 |
| Stratton | 32 | 32 |
| Wetmore | 13 | 27 |
| Leigh | 24 | 42 |
| Mickleover | 52 | 24 |
| Littleover | 37 | 19 |
| Findern | 1 | 31 |
| Stapenhill | 14 | 19 |
| Winshill | 14 | 38 |
| Totals | 213 | 262 |

[20] For a discussion of demesne management and rent collections in Domesday England see S. Harvey, 'Taxation and the Economy', in J. Holt (ed.), *Domesday Studies* (Woodbridge, 1987), 249–64, esp. 254–56.
[21] Data drawn from Bridgeman, 'The Burton Abbey Twelfth Century Surveys', 212–45.

***Shaftesbury Abbey***

Shaftesbury's estates mostly stretched from central and northern Dorset to southern and western Wiltshire and were surveyed between 1127 and 1130.[22] The *cottars* on the estate, who held plots of between 4 and 5 acres, generally owed rent of 2 or 3 days labour per week. However, the most numerous tenants on the estate were *villani*. Some of them held half-hides but virgates and half-virgates were replacing them as the standard holdings across Shaftesbury's estates.[23]

Most tenements at Shaftesbury were held for a mixture of cash and labour rents. The manors of Fontmell Magna and Compton Abbas, Dorset, generate some fairly standardised patterns showing that virgates were held for between 7½d and 15d, plus labour.[24] For example, at Compton Abbas, Wichtric held a virgate of land for 15d and worked 3 days per week for the lord, ploughed 4 acres and fallowed 3, rendered 1 amber of wheat for churchscot and paid 10d *lignagium* (see page 124).[25] At Trowle, Godric held a virgate for 7½d and owed 3 days of labour per week to the lord.[26] Half-virgates were often acquitted via payments of between 3¾d and 7½d, plus labour. For example, at Compton Abbas, Wilfin held half a virgate for 7½d, worked for the lord 2 days per week, ploughed 2 acres and fallowed 1 and a half, owed 1 amber of wheat as churchscot and paid 5d *lignagium*. Similarly, at Fontmell Magna, Theodric held a half-virgate for 3¾d, worked 2 days per week for the lord, ploughed 1 acre and fallowed another ¼ of an acre, paid 1 amber of wheat for churchscot and paid 5d *lignagium*.[27]

[22] Stacy, *Shaftesbury Abbey*, 8–10 and unpaginated map.
[23] Ibid., 23–24.
[24] A similar conclusion was reached by Lennard, *Rural England*, 383.
[25] Stacy, *Shaftesbury Abbey*, 108.
[26] Ibid., 80.
[27] Ibid., 108 and 111.

There are, of course, exceptions to this general pattern. For example, a group of 12 tenants at Winsley, Wiltshire, held half-virgates for 4 days labour per week and and are not said to have paid additional money rents for their holdings.[28] Furthermore, one tenant had the option of acquitting his rent for labour or cash. At Sixpenny Handley, itself a suggestive place-name, *Siwardus de iiiior acris xii d vel opus ii dierum et iiiior gallinas et opus Augusti* ('Siward holds 4 acres for 12 pence or works for 2 days and renders 4 chickens for churchscot and works during August').[29] In this case, 12d was apparently equivalent to 2 days work per week or 104 days work annually (or perhaps less if religious festivals are taken into account or if labour was seasonal). Thus at Sixpenny Handley, 1d was worth between 8 and 9 days of labour rent. This is an important statistic, since the literature often asserts that 1d was the value of 1 day's labour during the period.[30] Whatever the case, the fact that different forms of rent are differentiated and described in detail strongly suggests that when renders in cash were stipulated then coin was used as the means of exchange.

When rental values are significantly higher they appear to represent fully cash-commuted rents. For example, at Iwerne Minster, Dorset, Edric held 2 virgates of land, one for 15d and another for 5s (60d).[31] It seems doubtful that Edric would have held 2 separate virgates of land for such different values, and it is probable that the labour duties for the 15d virgate had been missed off.[32] Differences in land quality or in tenurial agreement may, of course, account for the discrepancy. Throughout the

[28] Ibid., 79–80.
[29] Ibid., 119.
[30] For example: Campbell et al., *The Anglo-Saxons*, 204; Dyer, *Making a Living*, 120.
[31] Stacy, *Shaftesbury Abbey*, 101.
[32] Ibid., 28.

Shaftesbury estates there are several commuted rental valuations around 4s to 5s per virgate (48d to 60d), although there are exceptions.[33] To calculate the average rental value per acre, the size of the virgate must be established. Some tenants on the estate paid a due called *lignagium*, which was levied at 10d on the virgate. However, a plot of 2 acres is found at Fontmell Magna, Dorset, paying 2d *lignagium*, which implies a 10-acre virgate on this manor.[34] At Bradford-upon-Avon, Wiltshire, comparison with the B survey (composed *c.* 1170) suggests that a half-virgate was equivalent to 5 acres, which again points to a 10-acre virgate.[35] At Tisbury, Wiltshire, and Iwerne Minster, Dorset, a virgate was equivalent to 12 acres, and at Kingston, Dorset, a virgate was 16 acres.[36] Therefore, the average rental value on the Shaftesbury estates ranged between 3d and 6d per acre.

Across the Shaftesbury estates a common commuted rental value for the half-virgate was 18d, and this is especially clear on the manor of Sixpenny Handley.[37] There are, however, some higher rental values: for instance, at West Hatch Ailward held a half-virgate for 30d.[38] If the average rental value for half-virgates fell between 18d and 30d, and the size of the half-virgate comprised between 5 and 8 acres, the values per acre lie between 2¼d and 6d, which are comparable to the virgate figures. In some cases, the survey specifies particular rents for holdings measured in acres. Some of these appear to be commuted payments paid by *cottars* for their holdings but some may be payments for assarted pieces of land. Of the 16 entries in table 12, 13 fall within the parameters of 2d to 6d per acre.

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[33] For example, 2 virgates at Sixpenny Handley were valued at three shillings, ibid., 118–19.
[34] Ibid., 113n.
[35] Ibid., 9.
[36] Ibid., 29n. See also H. C. Darby and R. Welldon Finn (eds.), *The Domesday Geography of South-West England* (Cambridge, 1967), 80–81 for debate over the size of the virgate in Domesday Dorset.
[37] Stacy, *Shaftesbury Abbey*, 29 and 117–20.
[38] Stacy, *Shaftesbury Abbey*, 109 and 92.

**Table 12: rental values for small tenements on the Shaftesbury Abbey estates, *c.* 1127–30**

| Manor | Tenant | Holding Size | Value in d | Pence per acre | Page ref. |
|---|---|---|---|---|---|
| Fontmell Magna | Segar | 2 acres | 12 | 6 | 113 |
| Sixpenny Handley | Seric | 2 acres | 8 | 4 | 118 |
| Sixpenny Handley | Werstan | 2 acres | 8 | 4 | 118 |
| Sixpenny Handley | Gadinge | 2 acres | 4 | 2 | 119 |
| Holt | Frewin | 2 acres | 15 | 7.5 | 82 |
| Fontmell Magna | Brichtric | 2 acres | 6 | 3 | 113 |
| Iwerne Minster | Edric | 2 acres | 6 | 3 | 101 |
| Tisbury | Edric | 4 acres | 24 | 6 | 90 |
| Tisbury | Brichtric the smith | 4 acres | 30 | 7.5 | 90 |
| Oakley | Seward | 4 acres | 36 | 9 | 92 |
| Nippred | Wlvric | 4 acres | 24 | 6 | 93 |
| Nippred | Wlwar | 4 acres | 24 | 6 | 93 |
| Nippred | Turbert | 4 acres | 24 | 6 | 93 |
| Sixpenny Handley | Brunstan | 4 acres | 12 | 3 | 118 |
| Sixpenny Handley | Siward | 4 acres | 12 | 3 | 119 |
| Sixpenny Handley | Eilward | 4 acres | 12 | 3 | 119 |
| Oakley | Eglav | 5 acres | 24 | 4.8 | 91 |

### *Ramsey Abbey*

The manors of Ramsey Abbey were scattered across Bedfordshire, Cambridgeshire, Huntingdonshire, Lincolnshire and Norfolk. A survey of these manors was made during the reign of Henry II (1154–89) but it contains information relating to conditions in the time of Henry I.[39] Many of the tenancies on the abbey were held for labour rent. Only for the manors of Ellington and Stukeley, Huntingdonshire, are labour conditions specifically stated to have existed during the reign of Henry I. Nevertheless, these conditions are very similar to those on 13 other manors in the survey.[40] These included

[39] *Cartularium Monasterii de Ramseia*, iii, 257–315; J. A. Raftis, *The Estates of Ramsey Abbey: A Study in Economic Growth and Organisation* (Toronto, 1957), 305–06.
[40] Lennard, *Rural England*, 384–85.

2 days of labour per week and a third day of ploughing between Michaelmas and the start of August. From August to Michaelmas (i.e. the harvest period) the labour duties rose to 5 days per week.[41]

However, there also appears to have been cash-commutation of rents on some manors during the twelfth century. I have used the differences between *tenet* and *tenuit*, and *habet* and *habuit*, in an attempt to distinguish between the reigns of Henry I and Henry II to calculate rents per acre. Sometimes rents were paid directly for a specified number of acres but sometimes rents were paid for virgates and hides. Fortunately, the Ramsey cartulary contains a list showing the number of acres per virgate for each of its manors in the thirteenth century.[42] These have been used to generate the figures in table 13.

Though the status of these tenants is unclear, some of them owed light labour services alongside their money rents like their counterparts at Burton Abbey. For example, Edwin of Deepdale owed 2 days of labour per week in August and Thurkil of Witton attended the county and the hundred court and ploughed every Friday. However, some of the tenants were quit of all services, such as Michael the cleric and Guido. The rental values generally fall between ½ and 2d per acre which is comparable to the values of money rents paid by the *censarii* at Burton Abbey.

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41 Ibid., 385; *Cartularium Monasterii de Ramseia*, iii, 274–75 and 304–07; transl. *EHD*, ii, no. 178 for Stukeley.

42 *Cartularium Monasterii de Ramseia*, iii, 208–15. Thirteenth-century 'Elingtone' is listed as having 24 acres per virgate. However, during the reign of Henry I the manors of Elton (Æthelingtuna) and 'Elintona' are listed but it is unclear which manor corresponds to Elingtone. Therefore, pence-per-acre data has been omitted for these two manors.

Bridbury notes that in the cartulary there were sometimes instances where the tenants who held their lands for services appeared liable to pay a cash sum on top of this. He cites the example of Barnwell, Cambs., where the text names each of the 14 bondsmen who held their land *pro omnibus servitiis* ('for all services'). However, at the end of the bondsmen list the text states *et est summa denariorum de bondis, decem libræ* ('and the total of pence from the bondsmen is ten pounds').[43] This payment may have been added during the reign of Henry II but Bridbury suggests that there may have been other instances, perhaps even in 1086, where estate surveyors missed off extra payments by those who, at first sight, appear not to have owed any coin at all.

[43] Bridbury, *English Economy*, 117; *Cartularium Monasterii de Ramseia*, iii, 316–17.

**Table 13: rental values on the manors of Ramsey Abbey during the reign of Henry I**

| Tenant | Manor | County | Unit of land | No. of acres | Value in d | Pence per acre | Page ref. |
|---|---|---|---|---|---|---|---|
| Thuri the priest | Elton | Hunts. | Acres (and croft) | 10 | 8 | 0.8 | iii, 257 |
| Edwin of Deepdale | Brancaster and Burnham Deepdale | Norfolk | Acres | 48 | 84 | 1.8 | iii, 261 |
| Alstan | Brancaster and Burnham Deepdale | Norfolk | Acres | 24 | 19 | 1.3 | iii, 262 |
| Roger son of Goscelin[44] | Ringstead-with-Holme | Norfolk | Acres | 120 | 84 | 0.7 | iii, 267 |
| Huelin | Ringstead-with-Holme | Norfolk | Acres | 20 | 20 | 1.0 | iii, 267 |
| Asketill | Ringstead-with-Holme | Norfolk | Acres | 7 | 12 | 1.7 | iii, 267 |
| Marlesuein | Ringstead-with-Holme | Norfolk | Acres | 15 | 6.5 | 0.4 | iii, 267 |
| Durand the cook | Wistow | Cambs. | 1 virgate | 30 | 48 | 1.6 | iii, 272 |
| Pagan | Wistow | Cambs. | 2 virgates | 60 | 24 | 0.4 | iii, 272 |
| Alfgar | Wistow | Cambs. | ½ virgate (and croft) | 15 | 36 | 2.4 | iii, 272 |

[44] At Ringstead-with-Holme 30 acres make 1 virgate and 4 virgates make 1 hide. There is no mention of the carucate but I am cautiously assuming that the carucate and the hide are the same.

| Tenant | Manor | County | Unit of land | No. of acres | Value in d | Pence per acre | Page ref. |
|---|---|---|---|---|---|---|---|
| Thurkil of Witton | Houghton and Witton | ? | 2 virgates | 36 | 60 | 1.7 | iii, 278 |
| Wulfric | Houghton and Witton | ? | 2 virgates | 36 | 60 | 1.7 | iii, 278 |
| – | Shillington -with- Pegsdon[45] | Beds. | 1 virgate | 12 | 22 | 1.8 | iii, 307 |
| – | Shillington -with- Pegsdon | Beds. | 1 virgate | 12 | 50 | 4.2 | iii, 307 |
| Michael the cleric | Burwell | Cambs. | 1 virgate | 30 | 60 | 2.0 | iii, 308 |
| Guido | Burwell | Cambs. | 1 hide | 120 | 240 | 2.0 | iii, 308–9 |
| – | Girton | Cambs. | 1 virgate | 30 | 60 | 2.0 | iii, 313 |
| Aluric of Histon | Girton | Cambs. | Acres | 7.5 | 24 | 3.2 | iii, 314 |

Bridbury also analysed the rental figures per manor in the Ramsey cartulary, which were calculated by totalling the rental payments of individual tenants. He then compared them to the *valets* and *reddits* for the corresponding manors in Domesday Book. Even though these cartulary rental figures relate to the reign of Henry II, Bridbury shows that there was little difference between many of them and the Domesday evidence.

[45] There were 30 virgates on this manor which paid 22d and 5 virgates which paid 50d.

**Table 14: Bridbury's comparison between the values of Ramsey Abbey's Domesday manors and the values of rents in the Ramsey Cartulary**[46]

| | Domesday Book | | | Post Henry I Rents | | |
|---|---|---|---|---|---|---|
| | £ | s | d | £ | s | d |
| Elton | 16 | 0 | 0 | 13 | 18 | 11¾ |
| Brancaster, Deepdale, Burnham | 10 | 0 | 0 | 9 | 1 | 9½ |
| Ringstead and Holm | 5 | 10 | 0 | 4 | 17 | ½ |
| Stukeley | 4 | 10 | 0 | – | – | – |
| Hemingford | 10 | 0 | 0 | 4 | 0 | 6 |
| Houghton and Witton | 15 | 0 | 0 | 10 | 19 | 6 |
| Lawshall | 12 | 0 | 0 | 10 | 18 | 0 |
| Hilgay | 3 | 10 | 0 | 3 | 14 | 7¼ |
| Elsworth | 16 | 0 | 0 | 6 | 12 | 9½ |
| Cranfield | 9 | 0 | 0 | 8 | 14 | 6½ |
| Ellington | 9 | 0 | 0 | – | – | – |
| Shillington-with-Pegsdon | 22 | 0 | 0 | 6 | 18 | 7 |
| Brington, Weston, Bythorn | 18 | 0 | 0 | – | – | – |
| Girton | 4 | 0 | 0 | – | – | – |
| Barnwell | 4 | 0 | 0 | 15 | 19 | 6 |
| Totals | 157 | 30 | 0 | 88 | 150 | 70 |

The connection between the cash renders of the Ramsey cartulary and the *valets* and *reddits* of Domesday Book is intriguing and is mirrored by similar evidence for Burton. This may suggest that individual cash rents at Ramsey (if they were paid in 1086) did not increase in value between the end of the eleventh century and the second half of the twelfth century.

[46] Bridbury, *English Economy*, 130.

***Peterborough Abbey***

The 26 manors of Peterborough Abbey, which lay in Cambridgeshire, Lincolnshire, Northamptonshire, Nottinghamshire and Rutland, were assessed during 1125–8 when the abbey had reverted to the king.[47] The surveys give detailed accounts of the rents and renders from different classes of tenant, but the obligations are not uniform. Furthermore, there are no indications of the acreages of virgates and bovates which makes it impossible to calculate rental values per acre. Nevertheless, some broad patterns can be discerned.

Lennard has analysed the labour duties of the tenants on these estates. Of the 283 visible *villani* the majority worked on the lord's demesne for 3 days per week. However, on 6 manors 146 *villani* owed just 2 days of work though 46 of these owed extra labour duties in August. On 13 manors 205 sokemen are visible. Their labour duties are often unclear but on the manor of Scotter and Scalthorp, Lincolnshire, the sokemen owed 1 day of labour per week and at Thorpe Achurch, Northamptonshire, 1 sokeman performed service with his horse.[48] Finally, the *cottars* and *bordarii* usually worked for 1 day per week though there are some instances of commutation.[49]

Additional renders were also due. For example, at Kettering each of the 40 *villani* held a virgate and alongside their 3 days of week-work they ploughed 4 acres for the lord in the spring and lent their ploughs to the lord 4 times in winter, 3 times in the spring and once in the summer. They all rendered (presumably together) 50 chickens and 640 eggs.

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[47] *Chronicon Petroburgense*, Appendix, 157–66.
[48] Ibid., 159 and 164.
[49] Lennard, *Rural England*, 378–82.

Furthermore, each *villanus* owed from their virgate *ii solidos et iii obola* ('2 shillings and 3 halfpennies').[50] The mention of *obola* may suggest that struck, round halfpennies were more of a reality during Henry I's reign than the numismatic evidence suggests (see pages 294–97). Alternatively, *obola* may refer to formal recognition of cut halves and quarters or perhaps even to a unit of account rather than to an actual coin.

There are plenty of further cases at Peterborough where the use of coin seems highly probable. At Collingham, 20 *villani* held 1½ carucates and rendered just 1 day of labour per week but owed 3 August boon-works (*præcationes*), various carrying services and *de Gabulo per annum iiii libras* ('in rent 4 pounds per year') which computes to 48d per *villanus*. On the same manor, 50 sokemen held 2½ carucates and worked 6 times per year, except in August where they worked for 3 days per week, and paid £12 per year, which computes to 57.6d each.[51] At Fisherton, 20 sokemen held 3 carucates of land and owed no week-work but owed occasional ploughing, carrying and boon-works. They also owed *iiii libras ad iiii terminus per annum* ('4 pounds in 4 instalments') which computes to 48d per sokeman. The 26 *villani* worked for 2 days per week, amongst other services, and each rendered 32d in 4 instalments whilst the half-*villani* worked for 1 day per week and owed 16d in 4 instalments.[52]

The half-*villanus* and the *cottar* often rendered similar levels of labour. They could also render similar levels of coin. At Eye, 13 half-*villani* ploughed 3 times per year alongside a further 26 acres per year, and rendered 12 *sceppas* of oats, 12 loaves, 40 chickens and 320 eggs. They also owed 16s (192d), which computes to 14.8d per half-*villanus*. At Fletton,

[50] *Chronicon Petroburgense*, 157.
[51] Ibid., 159.
[52] Ibid., 164.

4 *cottars* rendered 5s (60d) which computes to 15d per *cottar*.[53] Unusually, no labour services were mentioned in the latter account so the *cottars* may have had their labour services commuted to cash.

### *Abbey of Holy Trinity, Caen*

The estates of the Abbey of Holy Trinity, Caen, were surveyed between 1106 and 1113.[54] Its manors lay in Norfolk, Essex, Hampshire and Gloucestershire. The rental data is less comprehensive in this survey compared to the previous surveys, but some significant points can be extracted.

On the manor of Horstead, Norfolk, it appears that the commutation of labour rents to cash was almost complete.[55] The 4 sokemen rendered 30s (360d) per year, which computes to 90d per sokeman, and their only other service was to carry the farm of the manor to Winchester, presumably to ship it across the Channel to Caen. Furthermore, the 23 *villani* and 5 *bordarii* rendered 43s 10d (526d) and *navlum*, which Chibnall argues was for 'ferry dues' or water transport.[56] Their only labour duties were 16 days of reaping in August. The fact that the entry closes with *redditus nummorum huius manerii per annum viii libras* ('the render in coin of this manor per year [is] £8') confirms that these renders were expected in coin.[57] At Felstead, Essex, 5 sokemen paid a rent of 17s 7d (211d) for a virgate and a half and 5 acres. However, the *villani*, who held virgates, worked for 4 days per week plus boon works of ploughing 4 acres before and after

[53] Ibid., 165.
[54] Chibnall, *Holy Trinity, Caen,* 33–38.
[55] Lennard, *Rural England*, 386.
[56] Chibnall, *Holy Trinity, Caen*, 36n.
[57] Ibid., 36.

Christmas, harrowing, fallowing and manuring. It seems that they may still have needed to acquire coin since they were also to render 4d *ad primum pascha* ('at the first of Easter').[58]

The other detailed manorial entry is for Dinsley, which was possibly located near Hitchin, Hertfordshire.[59] The account begins with 3 men (*homines*), one of whom held 2 acres and a close (*clausum*) for 2s (24d) per year, which computes to approximately 12d rent for 1 acre. Another man held 2 acres for 1 day of labour per week. This may suggest that 24d was roughly equivalent to 52 days of labour per year, or perhaps a little less if one also subtracts festival days, which would make 1d worth around 2 days of labour on this manor. The passage goes on to state that 6 *cottars* (*commanes*) held 2 virgates for 2 days work and ploughing for a third, and each gave *viii denarios per iiii terminus in anno* ('8 pence in 4 instalments per year'). The entry finishes with what may be a list of sokemen since they paid high rents but also owed labour services. For example, Alwin Lesteuard held half a virgate for 8s (96d) and ploughed for 1 day.[60]

At Tarrant Launceston, Hants., there were 8 *villani* who worked 2 days per week but who also owed 12s 6d (150d), which computes to 18¾d per *villanus*. At Pinbury, Gloucs., there do not appear to have been any money rents, which may explain the high labour rents of 5 days per week for the *villani* and 3 days for the *cottars* (*cocez*). Finally, the survey of Minchinhampton, Gloucs., states that there were 26½ virgates of land, 17 of

[58] Ibid., 33–34.
[59] Ibid., xxvi–viii and 37n.
[60] Ibid., 37.

which were held *ad opus* ('for work') and 9½ for rent *ad gablum* ('for rent').[61] This is reminiscent of the situation at Burton, but no further figures are given.

**Rents: Domesday Book rents from the perspective of the lord**

The preceding section demonstrated the nature and values of a selection of peasant rents at a micro level. Domesday Book allows us to consider the question of rental values from another perspective: how much wealth could lords expect to extract from their lands and tenants? Darby has produced a set of annual values for every county in England, based upon the *valets* and *reddits* for each manor or holding in 1086.[62]

A number of caveats must be registered before handling this data. Firstly, *valets* and *reddits* are not always uniform in their definition. Darby interprets the Domesday term *valet* to be the value of a manor if it were managed directly by the lord, and *reddit* to be the rental value of the manor if it were leased out.[63] For example, Wadholt, Kent, had a *valet* of 20s but was worth (*app[re]ciat[or]*) 40s because it was at farm.[64] Lennard similarly argued that 'the *reddit* of Domesday indicates the payment of a definite rent or farm and not the actual or estimated profits of direct exploitation by the lord'.[65] However, Darby concedes that many Domesday entries seem to blur these distinctions. For example, the Domesday *valet* of Appledore, Kent, was £16 17s 6d but in the Domesday Monachorum the *valet* for Appledore was £12 but it rendered (*reddit*) £16, 16s 7d.[66]

[61] Ibid., 34–36.
[62] Darby, *Domesday England*, 208–32 and 359.
[63] Ibid., 211.
[64] GDB 12c (Kent 7:22).
[65] Lennard, *Rural England*, 123.
[66] Darby, *Domesday England*, 214; GDB 5b (Kent 3:20); *The Domesday Monachorum of Christ Church Canterbury*, ed. D. C. Douglas (London, 1944), 91.

Other factors complicate the Domesday record of manorial values. Extra payments from holdings, such as the *tailla* in Lincolnshire, may or may not have been included within the *valet* or *reddit*. Hundredal revenues in the form of the third penny were often assigned to certain manors and formed part of their income.[67] The values of outlying berewicks are sometimes included within the valuation of the head manors which makes it difficult to value certain holdings in certain places. Finally, the borough information is incomplete and is sometimes difficult to separate from rural manors.[68] However, Darby's annual values are based upon the county which helps to overcome the latter two difficulties.

More recent scholarship has aimed to refine some of these problems. Mayhew argues that the '*valet* or *reddit* gives an indication of annual manorial income enjoyed by the lord, whether in the form of rent, farms, and feudal dues, and/or demesne output'.[69] McDonald and Snooks similarly argue that 'the annual values (*valets*) constitute the incomes of landholders, in the form of either rents (or *reddits*) received from the leasing of land and other assets to subtenants, or of revenue gained from the direct exploitation of manorial resources'.[70] Bridbury, however, has argued that both Domesday *valets* and *reddits* represent only the total of cash renders, so that their economic value may have been two or three times larger when one takes labour services and renders in kind into account.[71] However, research by McDonald and Snooks on the Domesday counties of

[67] Maitland, *Domesday Book and Beyond*, 95 and 411; R. S. Hoyt, *The Royal Demesne in English Constitutional History: 1066–1272* (Cornell, 1950), 11–13.
[68] Darby, *Domesday England*, 223–24.
[69] Mayhew, 'Modelling Medieval Monetisation', 60.
[70] J. McDonald and G. D. Snooks, *Domesday Economy: A New Approach to Anglo-Norman History* (Oxford, 1986), 77.
[71] Bridbury, *The English Economy*, 111–32.

Essex and Wiltshire has demonstrated a strong connection between manorial resources and valuations.[72] This suggests that the totality of economic output from each estate, however this was generated, was usually considered when estate managers gave their information to the Domesday commissioners.[73]

Another debated issue is the proportion of wealth generated by peasants that lords were able to extract from them in rent. This is crucial for estimating the overall size of the economy, both at a macro level, and at the level of individual manors. Do Domesday values represent the total economic output of an estate, or simply the share of that output enjoyed by lords? If the latter, what proportion of total economic output did lords enjoy? Snooks has proposed that Domesday values represent, in aggregate, approximately 60% of the kingdom's economic output or GDP, Mayhew favours a figure of between 25% and 33%, and Walker's calculations suggest a figure of 25% (see pages 187–92). Since none of these positions can be definitively proved I shall keep all models open to suggest some values for the total amount of wealth generated per acre across England.

Table 15 gives figures for the annual values of each county in Domesday Book according to the total sum of the *valets* and *reddits*. Most of this data is a repeat of Darby's figures, but I have calculated an extra pence-per-acre value for each county to make it comparable to the pence-per-acre figures generated for rents at Burton, Shaftesbury and Ramsey.[74] The latter figures presumably relate to arable whereas the figures in table 15 are based upon the entire geographic area within each shire, including

[72] McDonald and Snooks, *Domesday Economy*, 85–95.
[73] J. T. Walker, 'National Income in Domesday England', *EcHR* (forthcoming).
[74] Darby, *Domesday England*, 359. There are 640 acres in a square mile.

uncultivated land, land under water, lakes, fenlands, mountains, downs, common land, and so on.

**Table 15: annual values per county and per acre in 1086 derived from Darby**

| County | Area in square miles | Value in £ | Shillings per square mile | Pence per acre |
|---|---|---|---|---|
| Bedfordshire | 461 | 1,164 | 50 | 0.94 |
| Berkshire | 720 | 2,524 | 70 | 1.31 |
| Buckinghamshire | 741 | 1,947 | 52 | 0.98 |
| Cambridgeshire | 861 | 1,847 | 43 | 0.81 |
| Cheshire (now in England) | 1,008 | 203 | 4 | 0.08 |
| Cheshire (now in Wales) | 295 | 44 | 4 | 0.08 |
| Cornwall | 1,348 | 670 | 10 | 0.19 |
| Derbyshire | 1,043 | 430 | 8 | 0.15 |
| Devonshire | 2,585 | 3,145 | 24 | 0.45 |
| Dorset | 981 | 3,110 | 68 | 1.28 |
| Essex | 1,514 | 5,047 | 67 | 1.26 |
| Gloucestershire (now in England) | 1,218 | 3,094 | 50 | 0.94 |
| Gloucestershire (now in Wales) | 59 | 110 | 50 | 0.94 |
| Hampshire | 1,620 | 3,415 | 42 | 0.79 |
| Herefordshire (now in England) | 816 | 1,078 | 26 | 0.49 |
| Herefordshire (now in Wales) | 27 | 37 | 26 | 0.49 |
| Hertfordshire | 640 | 1,458 | 46 | 0.86 |
| Huntingdonshire | 356 | 827 | 47 | 0.88 |
| Kent | 1,544 | 4,770 | 62 | 1.16 |
| Leicestershire | 821 | 842 | 21 | 0.39 |
| Lincolnshire | 2,646 | 3,253 | 25 | 0.47 |
| Middlesex | 278 | 740 | 53 | 0.99 |
| Norfolk | 2,037 | 4,094 | 40 | 0.75 |
| Northamptonshire | 1,076 | 1,744 | 32 | 0.60 |
| Nottinghamshire | 839 | 731 | 17 | 0.32 |
| Oxfordshire | 734 | 2,878 | 78 | 1.46 |

| County | Area in square miles | Value in £ | Shillings per square mile | Pence per acre |
|---|---|---|---|---|
| Shropshire (now in England) | 1,298 | 846 | 13 | 0.24 |
| Shropshire (now in Wales) | 55 | 6 | 13 | 0.24 |
| Somerset | 1,615 | 4,361 | 54 | 1.01 |
| Staffordshire | 1,194 | 449 | 8 | 0.15 |
| Suffolk | 1,453 | 3,828 | 53 | 0.99 |
| Surrey | 778 | 1,533 | 39 | 0.73 |
| Sussex | 1,431 | 3,116 | 44 | 0.82 |
| Warwickshire | 875 | 1,409 | 32 | 0.60 |
| Wiltshire | 1,379 | 4,770 | 69 | 1.29 |
| Worcestershire | 745 | 969 | 26 | 0.49 |
| Yorkshire | 7,024 | 1,084 | 3 | 0.06 |

Table 15 shows that the annual values across England range from under ¼d per acre up to almost 1½d per acre. Many of the lower values can be attributed to the devastating consequences of William I's harrying of the north in 1069–70. Writing *c.* 1125, Orderic Vitalis gives a famously vivid account of this:

Iussit enim ira stimulante segetibus et pecoribus cum uasis et omni genere alimentorum repleri, et igne iniecto penitus omnia simul comburi, et sic omnem alimoniam per totam regionem Transhumbranam pariter deuastari. Vnde sequenti tempore tam grauis in Anglia late seuit penuria, et inermem ac simplicem populum tanta famis inuoluit miseria, ut christianæ gentis utriusque sexus et omnis ætatis hominess perirent plus quam centum milia.

[In his [William I's] anger he commanded that all crops and herds, chattels and food of every kind should be brought together and burned to ashes with consuming fire, so that the whole region north of the Humber might be stripped of all means of sustenance. In consequence so serious a scarcity was felt in England, and so terrible a famine fell upon the humble and

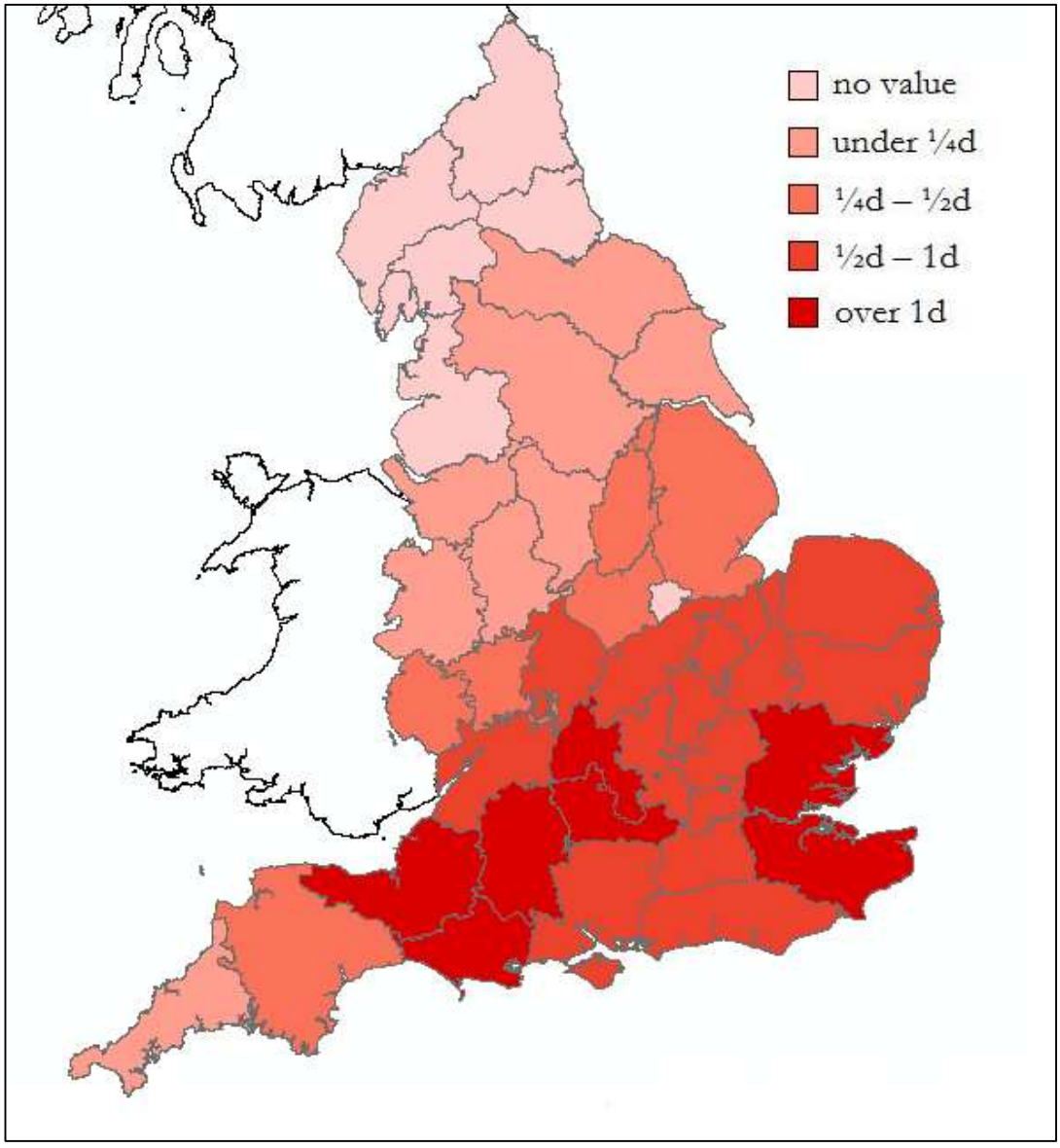
defenceless populace, that more than 100,000 Christian folk of both sexes, young and old, perished of hunger].[75]

The high levels of waste (*vasta*) in Domesday Book demonstrate that the counties of Yorkshire, Cheshire, Derbyshire, Staffordshire and Shropshire had not fully recovered from the effects of William's campaign some 16 years later, and it has been estimated that in 1086 Yorkshire only contained 25% of the population and oxen that it had before 1069.[76]

[75] *The Ecclesiastical History of Orderic Vitalis*, ed. and transl. M. Chibnall, 6 vols. (Oxford, 1968), ii, xv and 230–33. Chibnall's translation.

[76] J. Palmer, 'War and Domesday Waste', in M. Strickland (ed.), *Armies, Chivalry and Warfare in Medieval Britain and France* (Stamford, 1998), 256–75 at 273; for a critical view of the impact of the harrying of the north see D. M. Palliser, 'Domesday Book and the 'Harrying of the North", *Northern History*, 29 (1993), 1–23.

**Figure 1: heat map of values per acre in the counties surveyed by Domesday Book**




The remaining values per acre in table 15 range from between ¼d to 1½d. Figure 1 shows the distribution of these values across England. The counties in southern and eastern England yielded the most pence per acre with values dropping further westwards and northwards. McDonald and Snooks discovered a strong connection between manorial values and resources in the counties of Wiltshire and Essex. Furthermore, Darby cautiously concluded that there was generally a positive

correspondence between plough-teams and population and the wealth of a county.[77] Therefore, arable land was key to generating income (though it should be noted that despite being rich in arable land the figures in table 15 for the East Anglian counties of Norfolk and Suffolk are noticeably low – this may reflect the relative freedom of the peasantry in this region and that less agrarian output may have gone to lords). However, Darby argues that the counties with the highest values represent significant *non-arable* sectors of the economy. He suggests that sheep farming in chalky Dorset and on the downlands of Wiltshire could account for the high values in those counties.[78] Coastal industries in Essex and Kent could account for the high valuations there, with non-arable activity in the Weald and its close position to the continent perhaps adding more value to the latter county. The high value for Berkshire may be ascribed to its meadows, dairy farming and cheese-making.[79]

Many of the pence-per-acre values in table 15 correspond to the lower end of the pence-per-acre rental values for the abbeys of Burton (¾d–2¼d) and Ramsey (½–2d). However, at Shaftesbury the rental values were much higher at 2–6d per acre. One explanation for this is that Domesday Book under-recorded manorial income so that the early twelfth-century rents look artificially high when in reality there was little movement in values.[80] On a more basic level, the pence-per-acre values may be affected by topography, as noted above. For example, the vast majority of the *valets* and *reddits* of Cambridgeshire derive from the southern half of the county because a large part of the

[77] Darby, *Domesday England*, 230; and, for example for Suffolk, H. C. Darby, *The Domesday Geography of Eastern England* (Cambridge, 1971), 173; for Dorset see Darby and Welldon Finn, *Domesday Geography of South-West England*, 99; for Derbyshire see H. C. Darby and I. S. Maxwell (eds.), *The Domesday Geography of Northern England* (Cambridge, 1962), 306.
[78] See also P. H. Sawyer, 'Review of Darby and Maxwell (1962) and Darby and Campbell, *The Domesday Geography of South-East England* (1962)', *EcHR*, 16 (1963), 155–57.
[79] Darby, *Domesday England*, 225 and 231.
[80] Bridbury, *English Economy*, 117.

north was uncultivatable fenland.[81] Therefore, pence-per-acre values for Cambridgeshire as a whole will be lowered due to this factor. However, it is reassuring that the Domesday and estate-survey figures do in general accord with one another. Furthermore, the relative Domesday values per acre across the northern midlands are lower than in Wiltshire and Dorset, which tallies with the lower rental values per acre at Burton and Ramsey compared with the higher values at Shaftesbury.

Finally, it is possible to generate ballpark figures which estimate the total amount of income an acre was expected to yield. Excluding the problematic lower figures in table 15, the next lowest value per acre belongs to Nottingham at 0.32d per acre.[82] If, for the sake of argument, Snooks is correct and this sum reflects a 60% render to the lord then the average acre in Nottinghamshire would yield a total economic output of 0.53d. If we take Mayhew's figures of 25% and 33% (Walker's calculations also suggest a figure of 25%) then a Nottinghamshire acre would generate a total of between 0.97 and 1.28d. The highest value per acre belongs to Oxfordshire 1.46d. Following Snooks' model the total yield of an acre in this county would have been 2.43d whilst Mayhew's model generates estimates of between 4.42 and 5.84d per acre. These figures suggest that land could generate between ½d and 6d per acre, and possibly more.

[81] Darby, *Domesday Geography of Eastern England*, 270–73.
[82] Waste entries also occur in this county and Palmer estimates that 6.7% of the county was waste in 1086, 'War and Domesday Waste', 263.

## Dues: commutations of labour services

### *Carrying services*

Carrying or carting services were an important and regular part of the labour requirements due from the tenants of an estate. For example, on the manors of Burton Abbey, the *villani* were expected to cart 1 cartload of wood but in the B survey at Austrey, Warks., the *villani* provided *i denarium aut i quadrigatam lignorum* ('1 penny or 1 cartload of wood').[83] There were also commuted values for other carrying services. The *villani* on the manor of Burton were to go for salt and fish once or give *ii denarios* ('2 pence') for each *summagio* ('carrying service') and this payment is repeated on other manors, such as Branston and Bromley, Staffs., Littleover, Derbys., and Austrey, Warks.[84]

### *August work*

August was the busiest month of the agricultural year because of the harvest. Extra work was required on the lord's demesne, and it has already been shown that the labour burdens of all classes of estate tenants could increase during this month. Two commutation values of this work prove just how important it was. On the Shaftesbury Abbey manor of Oakley, Dorset, Eglav held 5 acres for 2s (24d) and Seward held 4 acres for 3s (36d) but they both paid 1s (12d) to avoid performing their *opera Augusti* ('August works').[85] The high value of the commutation may have been a price worth paying, if one could afford it, because it would have allowed the peasantry to have

[83] Bridgeman, 'The Burton Abbey Twelfth Century Surveys', 246.
[84] Ibid., 212–13, 215–17, 222, 229–31 and 246.
[85] Stacy, *Shaftesbury Abbey*, 91–92.

maximised the output from their own holdings. Furthermore, if 12d was the equivalent of 20–30 days of labour throughout August then it supports the evidence on pages 99 and 110 that 1d was worth more than 1 day's labour in this period.

## Dues: payments relating to pastoral rights and stock

### *Pannage*

Pannage was a payment by estate tenants to the lord for using his woodland or grazing land to feed their pigs in the Autumn.[86] The payment could be met by rendering pigs. At Tidenham the *gebur* who had 7 pigs gave 3 and then afterwards every tenth.[87] In the *RSP* the *geneat* owed 1 pasturage swine every year, and the Domesday counties of Surrey and Sussex record payments of 1 pig in 7 by the *villani*.[88] Pigs were worth between 6d and 24d during this period (see page 58), so this was a fairly substantial render. At Melbury Abbas in the twelfth-century Shaftesbury survey, the *villanus* Boie rendered 1 pig if he had 7.[89] However, at West Hatch, Wiltshire, all those who had young pigs (and young calves) gave ½d pannage (*pannagio*). Furthermore, on the manors of Oakley and Compton Abbas, Dorset, and Berwick St. Leonard, Wiltshire, all those who owned pigs paid 1d per pig and ½d for a young pig.[90] At Stoke Wake, Dorset, the payment of pannage was 2d for an adult pig and 1d for a young pig. The text goes on to state that the *cottars* (*cotsetas*) paid 1d per animal as pannage (*pannagio*) and ½d for a young animal at the feast of St. Thomas (3rd July).[91] It seems that if one had 7 pigs then the payment

[86] Neilson, *Customary Rents*, 71; O. Rackham, 'Forest and Upland', *A Social History of England*, 46–55 at 48.
[87] Robertson, *Charters*, no. 108.
[88] *Gesetze*, i, 444–453 at 445; Neilson, *Customary Rents*, 68–69.
[89] Stacy, *Shaftesbury Abbey*, 106.
[90] Ibid., 92–94 and 108.
[91] Ibid., 116.

of 1 pig sufficed, but if one had fewer pigs then coin could be used to settle the payment.

### *Herbage*

Herbage was the payment for the privilege of grazing all other animals except pigs on the lord's land.[92] At Tisbury, Wilts., the *villanus* Ricard had 3 animals free of herbage (*herbagio*) in the summer and 2 in the winter but if he had more then he ploughed 1 acre for every 2 animals. Sirwold had 6 animals free of herbage (*herbagio*) at 'Essefald' but if he had more then he paid *iii ob[ola]* ('3 halfpennies') for each extra animal.[93] At Melbury Abbas, the *bordarii* paid 2d per cow (*vacca*) and plough ox (*bove trahente*) and 1d for a young, pregnant cow (*juventa pregnante*). Stacy argues that these *bordarii* were more akin to *villani* and that they served at the abbey's headquarters like the 27 *bordarii* with 4 ploughteams in 1086 at Evesham.[94] Outside Shaftesbury, a possible herbage payment appears on Peterborough Abbey's manor of Kettering, where every *cottar* rendered 1d for a male goat and ½d for a female goat.[95] On Caen Abbey's estate at Felstead, Essex, every *bordar* was quit of one cow but if they had more they paid 2d if the cow had milk.[96]

### *Fold*

This was a payment typically made by *villani* who folded their sheep outside of the lord's fold since manure was valuable to lords and peasants alike for the enrichment of the

[92] Neilson, *Customary Rents*, 75.
[93] Stacy, *Shaftesbury Abbey*, 87–88.
[94] Ibid., 107. GDB 175c (Worcestershire 10:1).
[95] *Chronicon Petroburgense*, 157.
[96] Chibnall, *Holy Trinity, Caen*, 33.

soil.[97] On the Shaftesbury manor of Oakley, whoever folded their sheep upon their own lands gave 1 sheep to the lord at *Hockedai* (the second Tuesday after Easter).[98] The value of fold here was therefore 4d or 5d since this was the value of sheep during this period (see page 62). In the B survey of Burton Abbey, the *villani* at Stapenhill owed 1 acre of fallowing for fold but at Bromley the payment for fold (*falda*) was 7d.[99]

**Dues: payments relating to status**

The payments in this subsection relate to *chevage*, which was paid in lieu of non-attendance at a view of frankpledge (the system whereby all men over the age of 12 were assigned to a group of 10 men who were each responsible for the actions of the others). Neilson points to this payment in action on the Peterborough manor of 'Castre', where each of the 8 *bovarii* (ox-herds) *dat i denarium pro capite suo, si liber est* ('gives 1 penny for their head, if they are free').[100] Additionally, each of their wives gave *i obolum* ('1 halfpenny') for their heads.[101] A similar payment may be seen on Caen Abbey's manor of Felstead where the *bordarii* paid 2d *de capite suo* ('for their own heads') and 2d for their wives' heads.[102] A comparable payment on Burton's manors may have been when each *villanus* was obliged to find a horse for the annual journey to the abbot's court or render *iii denarios* ('3 pence') since it is possible that the abbot's court was the meeting place to conduct views of frankpledge.[103] However, the reason for the journey remains unclear.

[97] Neilson, *Customary Rents*, 80.
[98] Stacy, *Shaftesbury Abbey*, 92.
[99] Bridgeman, 'The Burton Abbey Twelfth Century Surveys', 222 and 238.
[100] Neilson, *Customary Rents*, 167–68.
[101] *Chronicon Petroburgense*, 163.
[102] Chibnall, *Holy Trinity, Caen*, 33.
[103] Bridgeman, 'The Burton Abbey Twelfth Century Surveys', 212–13, 229–31 and 246.

**Dues: miscellaneous dues and commutations**

### *Lignagium*

At Shaftesbury, an extra levy called *lignagium* was raised on some of the *villani* tenements. It was assessed at 40d on the hide and upon its fractions, such as at 10d on the virgate. *Lignagium* has lexicographical connotations with wood, and Stacy has drawn attention to comparable dues from thirteenth-century estates such as the *gabulum bosci* on the estates of the Abbey of Bec.[104] However, he also suggests that *lignagium* may have been an extra financial exaction to offset the Abbey outgrowing its resources. He compares *lignagium* to the *gafol* payments in the *RSP*, also levied at 10d on the virgate, and further suggests that *lignagium* may have been a pre-Conquest payment because the West-Saxon shilling had traditionally been 5d, which could be multiplied easily to reach 10d or 40d.[105] *Lignagium* would have been an onerous payment since it was worth between a sixth and a quarter of the typical total rental value of virgates and half-virgates at Shaftesbury.

### *Woodright*

At Burton whoever went to the wood for a cartload of wood between Pentecost and August rendered *ii denarios* ('2 pence').[106] This was probably related to the *wodericht*, or woodright, of the *villanus* to cut wood in the lord's forest for his own needs.[107] If this

[104] Stacy, *Shaftesbury Abbey*, 30–31; *Select Documents of the English Lands of the Abbey of Bec*, ed. M. Chibnall, Camden 3rd ser., vol. 73 (London, 1951), 29, 31–32 and 41–43; Neilson, *Customary Rents*, 53.
[105] Stacy, *Shaftesbury Abbey*, 30–31.
[106] Bridgeman, 'The Burton Abbey Twelfth Century Surveys', 212–13.
[107] Neilson, *Customary Rents*, 52.

were the case then the payment is similar to a toll. This charge was levied upon other manors on Burton's estates but some expressly did not pay it, such as Withmere.[108]

### *Heusire*

*Heusire* was probably paid for the renting of houses and it appears in the surveys of Ramsey Abbey.[109] At Elton, a certain Edward, father of Jordan, paid 2s (24d) for 1 and a half virgates but an additional 13d for *heusire*. Furthermore, the *villanus* who held a virgate for labour rent at Elton also paid 13d *heusire*.[110]

The dues in this section reveal significant extra burdens upon the peasantry additional to the rents for their holdings. In fact, many of these dues could be considered rents in their own right because they came attached to the holdings and it was impossible to avoid paying them. In many instances these payments appear to have been made in coin because the dues could also be acquitted via labour duties or in kind. A summary of these dues is given below:

[108] Bridgeman, 'The Burton Abbey Twelfth Century Surveys', 219–20.
[109] Ibid., 84–85.
[110] *Cartularium Monasterii de Ramseia*, iii, 258–59; transl. *EHD*, ii, no. 179.

**Table 16: the values of rural dues, 924–1135**

| Due | Social rank | Value | Date | Place |
|---|---|---|---|---|
| Pannage | Gebur | 3 pigs (18–30d?) | 950–1050 | Tideham, Gloucs. |
| Pannage | Geneat | 1 pig (6–10d?) | *c.* 1000 | *RSP* |
| Pannage | Villanus | 1 pig in 7 (6–10d?) | 1086 | Surrey and Sussex |
| Pannage | Villanus (Boie) | 1 pig in 7 (6–10d?) | 1127–30 | Melbury Abbas, Dorset |
| Pannage | All who have young pigs | ½d per pig | 1127–30 | West Hatch, Wilts.; Oakley, Dorset |
| Pannage | All who have pigs | 1d per pig | 1127–30 | Oakley, Dorset |
| Pannage | Villani who have pigs | 2d per pig | 1127–30 | Stoke Wake, Dorset |
| Pannage | Cottari who have pigs | 1d per pig | 1127–30 | Stoke Wake, Dorset |
| Herbage (after 3 free animals) | Villanus (Ricard) | 1 acre ploughing for every 2 animals | 1127–30 | Tisbury, Wilts. |
| Herbage (after 3 free animals) | Villanus (Selegar) | 1 acre ploughing for every animal | 1127–30 | Oakley, Dorset |
| Herbage (after 6 free animals) | Villanus (Sirwold) | 1½d per animal | 1127–30 | 'Essefald', Shaftesbury Abbey |
| Herbage | Bordar | 2d for a cow | 1127–30 | Melbury Abbas, Dorset |
| Herbage | Bordar | 2d for a plough ox | 1127–30 | Melbury Abbas, Dorset |
| Herbage | Bordar | 1d for a pregnant cow | 1127–30 | Melbury Abbas, Dorset |
| Herbage? | Cottar | 1d for a male goat | 1125–28 | Kettering, Northants. |
| Herbage? | Cottar | ½d for a female goat | 1125–8 | Kettering, Northants. |
| Herbage? | Bordar | 2d for a cow with milk | 1106–1113 | Felstead, Essex |

| Due | Social rank | Value | Date | Place |
|---|---|---|---|---|
| Fold | Those folding on own land | 1 sheep (4–5d) | 1127–30 | Oakley, Dorset |
| Fold | Villanus | 1 acre fallowing | 1114–18 | Stapenhill, Staffs. |
| Fold | Villanus | 7d | 1114–18 | Bromley, Staffs. |
| Chevage | Ox-herd | 1d for his head | 1125–28 | 'Castre', Peterborough Abbey |
| Chevage | Ox-herd | ½d for his wife | 1125–28 | 'Castre', Peterborough Abbey |
| Chevage | Bordar | 2d for his head | 1106–13 | Felstead, Essex |
| Chevage | Bordar | 2d for his wife | 1106–13 | Felstead, Essex |
| Chevage? | Villanus | 3d in lieu of going to the abbot's court | 1114–18 | Burton, Staffs. |
| Carting a load of wood | Villanus | 1d | 1114–18 | Austrey, Warks. |
| Carrying salt or fish | Villanus | 2d | 1114–18 | Burton, Staffs. and others (see text) |
| August Work | Cottar(?) | 12d | 1127–30 | Oakley, Dorset |
| Lignagium | Hide | 40d per hide | 1127–30 | Manors of Shaftesbury Abbey |
| Woodright | Villanus | 2d | 1114–18 | Burton, Staffs. |
| Heusire | Villanus | 13d | 1100–35 | Elton, Cambs. |

## 3.2 Urban Rents and Dues

Payments made by urban dwellers will be discussed in two main subsections: rents and customary dues. Much of the data in this section is drawn from Domesday Book, now usefully assembled in the *Domesday Explorer* database compiled by Dr. John Palmer and

his colleagues.[111] The other major source used in this section is the Winton Domesday survey, compiled *c.* 1110, which details the rents and customary dues owing from every urban plot within Winchester as they had been during Edward the Confessor's reign and as they were during Henry I's.[112] A final source is the Chronicle of Battle Abbey, which contains a brief account of the rents and dues payable by each plot within Battle between 1102 and 1107.[113]

### 3.2.1 Rents

Rents were assessed upon urban tenements but the nomenclature of these plots could vary. In Domesday Book they are described as *hagae* ('closes' or 'sites'), *mansurae* ('dwellings' or 'messuages'), *mansiones* ('messuages' or 'measures') and *domi* ('houses'). It is possible that the Domesday commissioners used terms familiar to them or to their locality. For example, *haga* only appears in circuit I (Kent, Surrey, Sussex, Hampshire and Berkshire). Furthermore, urban properties appear to have changed their function as regularly as they changed hands. In Winchester during Edward the Confessor's reign a certain Lefstan Bittecat held gardens but these had been replaced by 4 houses by *c.* 1110.[114] Plots could also be used for shops, workshops, yards or small patches for grazing livestock.[115] The terms of urban tenements relate to the same type of unit – small plots of land mostly held freely for cash rents.[116]

[111] Palmer's databases can be accessed at https://hydra.hull.ac.uk/
[112] F. Barlow (ed. and transl.), 'The Winton Domesday', in M. Biddle (ed.), *Winchester in the Early Middle Ages: An Edition and Discussion of the Winton Domesday*, Winchester Studies 1 (Oxford, 1976), 1–68.
[113] *The Chronicle of Battle Abbey*, ed. and transl. E. Searle (Oxford, 1980), 48–59.
[114] Barlow, 'Winton Domesday', 49.
[115] Ibid., 6–7.
[116] Holt, 'Society and Population', 85.

In Domesday Book, rents were also assessed upon town-dwellers (*burgenses* or 'burgesses'). They are recorded in the town entries, for example in Buckingham where Robert d'Oilly had 1 burgess who paid 26d a year and 5d to the king.[117] Burgesses are also attached to external manors whose lords held plots of land in nearby towns. The manor of Bulley in Gloucestershire had 1 burgess in Gloucester who paid 18d.[118] The sizes of plots in towns may give an indication of what urban dwellers were paying for. In York, the plots on Coppergate during the mid-tenth century measured approximately 4.3m wide and 7.6m long whilst in mid twelfth-century Winchester the street frontages ranged between 7.6m and 26.2m.[119]

Urban rents fall into two categories. The first of these is often described as 'burgage tenure' (or *landgabulum*). This was actually a customary due which was 'low, fixed [and] perpetual'.[120] It can also be described as 'ground-rent' since there is one reference in the Winton Domesday to a certain Odo Ticchemann's son who held *de terra regis viii denarratas* ('8 pennyworth of land from the royal demesne').[121] The recipients of burgage-tenure payments were lords, such as the king or lay and ecclesiastical barons, and Barlow notes that these payments may have reflected the 'dependency' of the tenant upon the lord.[122] Domesday Book records the values of what appear to be burgage tenure paid by 1,742 burgesses. Furthermore, there are 1,827.1 urban plots with similar values attributed to them.

117 GDB 143a (Buckingham B9).
118 GDB 169a (Gloucestershire 58:1).
119 Dyer, *Making a Living*, 68; Hinton, *Archaeology, Economy and Society*, 88; M. Biddle and D. J. Keene, 'Winchester in the Eleventh and Twelfth Centuries', in *Winchester in the Early Middle Ages*, 221–448 at 377.
120 Barlow, 'Winton Domesday', 7.
121 Ibid., 7 and 53.
122 Ibid., 8.

**Table 17: payments of burgage tenure attributed to burgesses and urban plots in Domesday Book[123]**

| Burgess or plot | No. in sample | Mean value in d | Median value in d | Modal value in d | Highest value in d | Lowest value in d |
|---|---|---|---|---|---|---|
| Burgess | 1742.0 | 14.9 | 10 | 6 | 120 | 1 |
| *Domus* | 501.5 | 16.5 | 12 | 12 | 160 | 2.8 |
| *Haga* | 711.6 | 12.5 | 6 | 6 | 180 | 1 |
| *Mansio* | 23.0 | 33.3 | 17.5 | 26 | 144 | 6 |
| *Mansura* | 591.0 | 9.8 | 8.2 | 4 | 30 | 1 |

These figures suggest that the mean, median and modal payments for burgage tenure fell between 6d and 17d. There appears to be no substantive difference in value between entries which relate to burgesses and entries which relate to houses or plots. The *mansio* figures are noticeably higher than those in the other categories. This may be a product of the small sample-size but the Yorkshire data pushes up the mean value since two *mansiones* paid 14s (168d) each.[124] At the opposite end of the spectrum, Domesday Book states that of 400 uninhabited *mansiones* in York the better ones paid *i denariu[m]* ('1 penny') and the remainder less, whilst 500 *mansiones* were so empty (*ita vacuæ*) that they paid nothing.[125] The vacant *mansiones* were doubtless caused by the turbulence of 1069–70, which demonstrates that burgage-tenure values were not always static and could respond to political and economic circumstances.

The Winton Domesday has a street-by-street breakdown of burgage tenure though not every plot-value was recorded. I have analysed these and tabulated them in table 18. The terms used for plots in this source are almost always *domus* or *mansura* and, with the exception of a few plots, the figures are always the same value during the reigns of

[123] I compiled this data from Palmer's Domesday Explorer database and have sense-checked back to the texts.
[124] GDB 298a (Yorkshire C13).
[125] GDB 298a (Yorkshire C1b).

Edward the Confessor and Henry I. The range of values falls between 2d and 50d but the majority fall between 4d and 15d, although there is also a spike at 30d. They therefore correlate reasonably closely with the figures given in Domesday Book.

**Table 18: burgage-tenure values in the Winton Domesday survey, *c.* 1110**

| Street name | 2d | 2½d | 3d | 4d | 5d | 6d | 8d | 9d | 10d | 11d | 12d |
|---|---|---|---|---|---|---|---|---|---|---|---|
| High St (North Side) | | | | | | 3 | | | | | |
| Outside West Gate[126] | 3 | | 4 | 3 | | | 2 | | | | |
| Snithelinga St | 1 | | | 4 | | 1 | 1 | | | | |
| Bredene St | | | | 1 | | 1 | 1 | | 3 | | 1 |
| Scowertene St | | | | 1 | | | | | 3 | | |
| Alwarene St | | | | 1 | | 1 | 1 | | 1 | | 1 |
| Flesmangere St | | | | 1 | | | | | | | |
| Wenegene St | | | | 1 | | 4 | 3 | | 1 | | |
| Tannere St | 1 | | | | | 7 | 1 | 1 | 4 | | |
| Bucche St | | 1 | | 3 | 5 | 6 | 6 | | 8 | | 2 |
| Calpe St | | | | 2 | 1 | 9 | 2 | | 5 | 1 | 5 |
| Gold St | | | | 1 | 1 | 2 | 4 | | 7 | | |
| Totals | 5 | 1 | 4 | 18 | 7 | 34 | 21 | 1 | 32 | 1 | 9 |

[126] The values of 2d relate to plots in 1066 called by the contracted abbreviation *curtill'*. Barlow states that it is impossible to tell if the word intended was *curtillum* or *curtillagium*. Furthermore, in *c.* 1110 one of the *curtill'* plots had 3 houses paying 4d and another *curtill'* plot had 3 houses paying 8d, Barlow, 'Winton Domesday', 52n.

| Street name | 13d | 14d | 15d | 18d | 20d | 24d | 30d | 32d | 40d | 50d |
|---|---|---|---|---|---|---|---|---|---|---|
| High St (North Side) | | | | | | | | | | |
| Outside West Gate | | | | | | | | | | |
| Snithelinga St | | | | | | | | | | |
| Bredene St | | | 3 | | 1 | | 5 | | | |
| Scowertene St | | 1 | | | 1 | | 1 | | | |
| Alwarene St | | | 2 | | | | | | | |
| Flesmangere St | | | 1 | | | 1 | | | | |
| Wenegene St | 1 | 1 | | | | | | 1 | | |
| Tannere St[127] | | | | | | 1 | | | 1 | |
| Bucche St | | | 1 | | | | 1 | | | |
| Calpe St[128] | | 1 | | | | | 1 | | 1 | 1 |
| Gold St | | | 7 | 1 | 1 | | 4 | | | |
| Totals | 1 | 3 | 14 | 1 | 3 | 2 | 12 | 1 | 2 | 1 |

The Chronicle of Battle Abbey details payments due from the *mansurae* of Battle during the period 1102–7. Of the 110 occupants, 71 were liable to pay 7d for their *consuetudinali censu* ('customary rent'), sixteen paid 5d, six paid 6d, six paid 4d, four paid 6½d, two paid 11d and values of 3d, 12d, 13d, 14d and 15d occur once.[129] Additionally, almost every plot-holder was obliged to provide a man for 1 day for haymaking at Bodium and for repairing the mill. Each man also had to provide 1 *summa* of malt to the Abbey.All three sources used in this section have demonstrated that burgage tenures for urban plots usually fell between 4d and 17d, and the differences in value were probably based upon the size of the tenement and the importance of certain streets within and without the boundaries of the town.[130] Dyer has also stated that between 1270 and 1540 normal

[127] The value of 40d is for 3 *mansurae*, ibid., 61.
[128] The value of 40d is for 2 *mansurae*, ibid., 65.
[129] *Chronicle of Battle Abbey*, 52–59.
[130] Barlow, 'Winton Domesday', 13.

burgage tenures were valued between 6d and 18d which suggests that the value of this customary payment was relatively stable for at least 500 years.[131]

The Winton Domesday gives a second set of rental values, which have been described as 'economic' or 'commercial' rents, which were almost always far higher in value than burgage-tenure payments.[132] For example:

Alwinus Sidessone tenuit tempore regis Eadwardi i domum reddentem de langabulo vi d. et omnem aliam consuetudinem regis; et rex eam tenuit in dominio. Modo eam tenet filius Radulfi Roselli, quia dimissa fuit ei a patre; et nullam consu[e]tudinem inde unquam reddidit; et reddit l s.

[Alwin Scid's son held 1 house *TRE* which paid 6d landgabulum and every other royal custom; and the king held it in demesne. Now the son of Ralf Rosell holds it, because it was left to him by his father; and he has never paid any custom in respect of it. And it yields 50s].[133]

These rents were payable to the mainly non-present owner of the house or plot, in the above example the son of Ralf Rosell. Such high rents were probably generated as a result of an intense demand for goods and services produced by skilled individuals working on these plots, either as an annual fixed sum, or farm, or as a sum more directly linked to the value of the business or trade. For example, Osbert the brother of Maisent held a house from Osbert son of Thiard and rendered to the latter *vii solidatas ferrorum per iii addenarios* ('7 shillings-worth of irons (horseshoes?) at 3 account days)'–the implication being that Osbert, brother of Maisent, was an ironmonger or a farrier.[134] This example may also suggest that since 'irons' or horseshoes were being rendered here

131 C. Dyer, 'Small Towns 1270–1540', in *Cambridge Urban History*, 505–37 at 525.
132 Barlow, 'Winton Domesday', 15n; Mayhew, 'Coinage and Money', 77.
133 Barlow, 'Winton Domesday', 33. Barlow's translation.
134 Ibid., 52. The horseshoes are Barlow's suggestion.

then coins may have been used as the means of payment from almost every other plot with a rent in monetary terms. However, the transaction could have been completed with other means of payment.

The Winton Domesday may offer a tantalising glimpse of those town dwellers that did not have a special skill and were casual labourers, but still had to pay substantial rents. On the *domus* of the monks of St. Swithun one *bonus civis* ('good citizen') lived there in 1066, but by *c.* 1110 *pauperes* ('poor men') had replaced him. Nevertheless, the *domus* still yielded 64s (768d). Similarly, in *c.* 1110 *pauperes* lived on two *domi* of Hugh Oilard and rendered 44s (528d).[135] We know neither the exact statuses of the poor men nor how many of them that lived there but it is possible that they were migrants from the countryside who found work in Winchester and who paid rent in coin.

### 3.2.2 Dues

Town dwellers were obliged to pay an array of dues alongside their rents. Collectively, they could add up to significant sums. For example, Domesday Stafford rendered *ix lib[ras]denar[iorum]* ('£9 of pennies') for all customary dues, two parts to the king, the third part to the earl [of Mercia].[136] Such dues came from different activities. For example, in Hereford in 1066 *cui[us]cunq[ue] uxor braziabat intus 7 extra civitatem dabat x denarios p[ro] consuetudinem* ('any man's wife who brewed inside and outside the city gave 10d by custom').[137] In the early twelfth century, a due called *bruegabulum* was levied in Winchester. One *domus* paid 8d for *landgabulum* and *bruegabulum*, and a *mansura* saw a

[135] Ibid., 36.
[136] GDB 246a (Staffordshire B:12).
[137] GDB 179a (Herefordshire C:7).

certain priest called Urand paying 4d *bruegabulum*.[138] Neilson argues that payments relating to brewing were either cash commutations in place of food rents or were for licenses to brew.[139] Given the urban settings it was probably paid for the latter.

The Winton Domesday also states that 8 butchers (*carnifices*) used to pay the reeve (*praepositus*) 8d every Sunday in the 1050s.[140] This seems to be a relatively heavy rate when compared to annual burgage-tenure values but presumably selling meat was a lucrative business. One of the streets in Winchester was called *Flesmangerestret* which literally means flesh- or meat-selling street, which suggests a demand for meat. Furthermore, 1d per week from each butcher is comparable to the toll of 2d per week from market stalls within Winchester which was also levied at this time (see pages 173 and 176).[141]

The Hereford Domesday states that 6 smiths (*fabri*) in the city each gave *unu[m] denar[ium]* ('one penny') from their forges (*forgia*).[142] A close relationship with the king is clear since they were each paid 3d for making 120 horseshoes from the king's iron and they were quit of all other customs.

Two urban services relate to horses. Firstly, in 1066 a 4d payment was due from each messuage in Hereford for the hire of horses.[143] Alan Dyer has calculated that Hereford contained 200+ properties in 1086 which would take the total payment for horses up to

138 Barlow, 'Winton Domesday', 47 and 60.
139 Neilson, *Customary Rents*, 35.
140 Barlow, 'Winton Domesday', 37.
141 Ibid., 38.
142 GDB 179a (Herefordshire C:8).
143 GDB 179a (Herefordshire C:3).

800d, or £3 6s 8d.[144] It is, however, unclear how long the horses were for hire or what they were used for. Secondly, a service recorded in Great Domesday Book and the survey of St. Augustine's, Canterbury, states that a payment was made by the burgesses of Dover of 3d in winter and 2d in summer to ship horses of the king's *missatici* ('messengers' or 'legates') across the English Channel.[145]

There are some one-off services which occur in the sources. Firstly, a payment from the Norfolk Domesday states that 36 burgesses and 6 Englishmen in Norwich each paid *i d[enarium] p[rae]t[er] forisfacturas* ('1 penny besides forfeitures').[146] This may have been a burgage-tenure payment but its precise nature is unclear. Secondly, in the Winton Domesday Urand the priest paid *fripene* ('frithpenny').[147] In the thirteenth century *frithpenny* was paid by each freeman who appeared at a view of frankpledge to the lord, so perhaps Urand or the plot were connected to a nearby manor.[148]

I have tried to deal with specifically urban dues in this section yet there were other dues owing from urban plots and tenements. These relate to geld, *wata* ('ward service') and *avra* ('carrying service'). These were due to the king and the state but were also forthcoming from rural estates, so they will be covered in the section 4 of this chapter. A summary of urban payments, minus 'economic rents', is as follows:

144 Dyer, 'Ranking Lists', 753.
145 GDB 1a (Kent D:3); Ballard, *An Eleventh-Century Inquisition*, 23–24.
146 LDB 118a (Norfolk 1:66).
147 Barlow, 'Winton Domesday', 60.
148 *Yorkshire Inquisitions of the Reigns of Henry III and Edward I*, ed. W. Brown, 3 vols. (Record Series, 1892), i, 295.

**Table 19: the values of urban payments, 924–1135**

| Payment | Date | Value |
|---|---|---|
| Burgage tenure | 1050s–*c.* 1110 | *c.* 4–17d |
| License to brew | 1050s–*c.* 1110 | *c.* 4–10d |
| Hire of horses from each messuage in Hereford | 1066 | 4d |
| Transport of horses across the sea from Dover in winter per burgess | 1066 | 3d |
| Transport of horses across the sea from Dover in summer per burgess | 1066 | 2d |
| Weekly payment from a butcher in Winchester | 1050s | 1d |
| Payment from smiths in Hereford | 1066 | 1d |
| Frithpenny | 1050s | 1d |

## 3.3 Church Dues

Payments made to the institutional church were performed in order to ensure a smooth passage into the Christian afterlife, to receive 'priestly ministrations' and to pay for the upkeep of church buildings.[149] This section will discuss such payments and will seek to establish where coin was used to conduct particular transactions since many of these payments were made in kind.

### 3.3.1 Tithe

Tithe was a render to the church of a tenth of one's produce. It was designed to pay for repairs, to support the clergy and to provide alms for the poor.[150] Blair argues that

[149] Blair, *Church*, 438.
[150] F. Barlow, *The English Church, 1000–1066: A History of the Later Anglo-Saxon Church* (London, 1979), 160.

compulsory payment of tithe had been enforced only on the continent before the reign of King Athelstan. However, from this point onwards its collection was enforced in the English law codes and it represented a major new source of revenue.[151] The Anglo-Saxon law codes make a distinction between tithes consisting of *ælcere geoguðe* ('young animals'), paid at Pentecost (typically late May to early June), and tithe of *eorðwæstma* ('fruits of the earth'), paid at the feast of All Saints (1st November). The *Leges Edwardi Confessoris*, datable to the 1130s or early 1140s, describes tithe thus:

De omnia annona decima garba sancte ecclesie reddenda est. Si quis gregem equarum habuerit, pullum decimum reddat; qui unam solam vel duas, de singulis pullis singulos denarios. Qui vaccas plures habuerit, vitulum decimum; qui unam vel duas, de vitulis singulis obolos singulos. Et si de eis caseum fecerit, caseum decimum; si non fecerit, lac decima die. Agnum decimum, vellus decimum, caseum decimum, butirum decimum, porcellum decimum, secundum quod sibi per annum inde profecerit. Quin etiam de boscis et pratis, aquis, molendinis, parcis, vivariis, piscariis, uirgultis, ortis et negociacionibus et omnibus similiter rebus, quas dederit Dominus, decima reddenda est. Et qui eam detinuerit, per iusticiam sancte ecclesie et regis, si necesse fuerit, ad redditionem cogatur.

[The tenth sheaf from every harvest must be rendered to the Holy Church. If anyone has a herd of horses, he shall render the tenth foal; whoever [has] only one or two, [shall pay] single pennies for individual foals. Whoever has many cows, the tenth calf; whoever [has] one or two, single half-pennies for individual calves. And if he makes cheese from them, the tenth cheese; if he does not make [it], milk from the tenth day. The tenth lamb, the tenth fleece, the tenth cheese, the tenth butter, the tenth piglet, according thence to what it produces from his annually. But a tithe should also be paid from woods and meadows, waters, mills, parks, fish ponds, fishing, copses, gardens, and commerce, and likewise from all things that the Lord gives.

[151] Blair, *Church*, 435–36; I As; I Em 2; II Edg 1.1 and 3; V Atr 11.1; VI Atr 17; VIII Atr 9.1; I Cn 8.1.

And whoever withholds it shall be forced to payment by the justice of the Holy Church and of the king, if this is necessary].[152]

If we can trust the veracity of this legal text as approximating to law experienced in Anglo-Norman England, then the account reveals the all-encompassing nature of tithe. It is instructive that coin may have been used to satisfy a tithe payment–pennies for foals and halfpennies for calves. Other monetary valuations of tithe appear in the documentary sources. Between 1066 and 1086 the minster church of Taunton expected to receive 8d tithe (*teoþung*) from every hide on the manors of Nynehead and Hele, and on the estates of Shaftesbury Abbey 6d was to be rendered from every hide at Stoke Wake, Dorset, to the priest.[153] It is unclear whether these sums were given by the peasant tenants themselves or whether their agricultural produce was converted to coin by a reeve at the market. Nevertheless, Blair notes that 'commutation strategies' played a part in shaping the nature and value of tithe payments.[154]

### 3.3.2 Churchscot

Churchscot was an annual render to minster churches which was usually paid in grain. It first appears in the laws of King Ine of Wessex and is later enforced as a payment expected at Martinmas in the laws of Edmund, Edgar, Æthelred II and Cnut.[155] Sometimes the payment was assessed on the land. For example, between 1066 and 1086 the church of Taunton was to receive churchscots (presumably grain) from the estate at Nynehead, 3 churchscots from the 5 hides at Bagborough, 1 churchscot from Lydeard,

[152] *Leges Edwardi Confessoris*, 7–8.2. Translation taken from B. O'Brien, *God's Peace and King's Peace: The Laws of Edward the Confessor* (Pennsylvania, 1999), 165.
[153] Robertson, *Charters*, App. I, no. 4; Stacy, *Shaftesbury Abbey*, 115–16.
[154] Blair*, Church*, 447.
[155] Blair, *Church*, 434; I Em 2; II Edg 2.2; VI Atr 18; I Cn 10.

and so on.[156] However, at Lambourn, Berks., churchscot was assessed on individuals as well as land. Every *geneat* at Lambourn and Up Lambourn owed a *sester* of corn for churchscot as did every *gebur* at Eastbury. More relevant to this thesis is the 12d of churchscot owed by every hide above Coppington at Martinmas.[157]

In 1086 the manor of Benson, Oxon. rendered 11s (132d) of churchscot though this may have related to its value rather than a payment in coin.[158] More precisely, each sokeman on the manor of Stoke Mandeville, Buckinghamshire, was to render 1 acre of corn or 4d in 1066 in what appears to be a churchscot payment.[159] The Shaftesbury Abbey survey shows that churchscot was due from almost every tenant on their estates. This usually came in the form of an amber of wheat, an amber of flour or 4 chickens.[160] However, Stacy draws attention to a 5-pence payment from a hide of land made by the *villani* at Iwerne Minster which he states might have been churchscot.[161] Finally, payments on the Peterborough manor of Fiskerton may relate to churchscot despite not being referred to by name. At the feast of St. Martin each of the full *villani* rendered *ii denarios* ('2 pence') to the lord, and every half *villanus* rendered *i denarium* ('1 penny') as was the prebendary custom (*pro consuetudine præbende*).[162]

156 Robertson, *Charters*, App. I, no. 4.
157 Robertson, *Charters*, App. I, no. 5.
158 GDB 154c (Oxfordshire 1:2).
159 GDB 143d (Buckinghamshire 3a:1); Barlow, *English Church*, 162.
160 Chickens were also owed at Burton Abbey and Peterborough though their payment at Christmas and Easter makes it hard to discern whether or not they were churchscot payments. See Neilson, *Customary Rents*, 22 on this point.
161 Stacy, *Shaftesbury Abbey*, 75–120, churchscot payment at 100.
162 *Chronicon Petroburgense*, 164.

### 3.3.3 Soulscot

Soulscot (sometimes called 'mortuary') was a payment made for burial within the grounds of a church or in holy ground. It was payable to the parish where the deceased person belonged or, if buried elsewhere, to the minster from whence he or she came.[163] Its payment was also made compulsory in the law codes from Athelstan's reign.[164] Soulscot could be lucrative if the deceased person were of a high social standing. Barlow has drawn attention to several late Anglo-Saxon wills which demonstrate this. Wulfgeat, probably a king's thegn who died in 1006, granted as his *sawelscættas* 1 hide at Tardebigge, *1 pund penega* ('1 pound of pence') and 26 freedmen. An unidentifiable Leofgifu (d. 1035x1044) left to Bury St. Edmunds her estates at Hintlesham and Gestingthorp.[165] However, not everyone in society had such wealth to donate.

Lower values of soulscot payments for this period occur in the tenth- and eleventh-century guild statutes, described by Blair as 'lay associations, sworn to promote the welfare and drunken conviviality of their members, but [where] religious functions were prominent'.[166] The Abbotsbury guild statute, dated by Whitelock to the mid-eleventh century, states that each guild-brother was to pay *ænne peningc* ('one penny') for the soul of a deceased guild-brother.[167] It is likely that these guild-brothers were thegns, but those of a lower social status could also participate. Two guild statutes from *c.* 1100 survive from Woodbury, Devon, which outline similar payments for burial and which

[163] Blair, *Church*, 437; Barlow, *English Church*, 162; Neilson, *Customary Rents*, 192–93.
[164] I As 4; II Edg 5.2; V Atr 12; VI Atr 20; VIII Atr 13; I Cn 13.
[165] Robertson, *Charters*, nos. 18, 19 and 29.
[166] Blair, *Church*, 454.
[167] *EHD*, i, no. 139; *Diplomatarium Anglicum Ævi Saxonici*, ed. B. Thorpe (London, 1865), 607.

include amongst their numbers parish priests and women.[168] Each guild-brother was to render *ænne penig to sawul sceote se hit bonda se hit wif þe on þam gildscipe sindon* ('one penny for soulscot, whether for a man or a woman').[169]

At Bedwyn, whose statute is dated to the first half of the tenth century, the guild-brothers were to obtain 5 masses or psalters for the deceased guild-brother's soul. After 30 days, each pair of guild-brothers were to bring 5 loaves, a pennyworth of something to eat, and 1d for the deceased brother's soul to this meeting.[170] The Cambridge thegn's guild statute, dated towards the end of the tenth century, states that a 2-pence payment for *ælmessan* ('almsgiving') was due at the funeral of a deceased guild-brother. Furthermore, any thegn who did not help to bring the guild-brother's body to where he wanted it to be buried paid a *sester* of honey to the guild (*sesters* were valued in Domesday Book at 12d and 15d).[171]

### 3.3.4 Lightscot

Lightscot (*leohtgescot*) was a land-based render which paid for the oil and wax to light churches. It appears as a compulsory payment from V Æthelred onwards (by the hand of Archbishop Wulfstan) where it was demanded three times per year.[172] I Cnut puts a value on lightscot: *healfpenigwurð wexes* ('a halfpennyworth of wax') from every hide at Easter Eve, at All Saints and at the feast of the Purification of St. Mary.[173] There are no indications of how much wax this represented but the term *healfpenigwurð* may be

168 G. Rosser, 'The Anglo-Saxon Gilds', in J. Blair (ed.), *Minsters and Parish Churches: the Local Church in Transition, 950–1200* (Oxford, 1988), 31–34 at 31.
169 Barlow, *English Church, 1000–1066*, 196–98; Thorpe, *Diplomatarium*, 609.
170 *EHD*, i, no. 138.
171 *EHD*, i, no. 136; Thorpe, *Diplomatarium*, 611.
172 V Atr 11.1; Blair, *Church*, 438 and 444.
173 I Cn 12.

indicative of the deep role which coined money played in society. A value for lightscot also appears on the estates of Peterborough Abbey between 1125–8. Every carucate on the manor of Glinton, Cambridgeshire, was to render *i denarium cere* ('1 pennyworth of wax') for the lights of the church at Peterborough–a value similar to that in Cnut's law code.[174]

### 3.3.5 Plough alms

Plough alms (*sulhælmessan*) were a church due to feed and assist the poor. Although plough alms appear in I Edmund and II Edgar, Wormald has argued that these may have been later insertions made by Archbishop Wulfstan since there is no precedent for these payments before they appear in V, VI and VIII Æthelred and I Cnut whence it was to be paid 15 days after Easter.[175] Neilson links plough alms to the following payment in VII Æthelred:

sceote man æghwilce hide pæning oðde pæniges weorð 7 bringe man þæt to cirican 7 siðdan on þreo dæle be scriftes 7 be tunesgerefan gewitnesse . . . 7 swa hwar swa þæt feoh up arise, dæle man on Godes est ghwilcne pænig 7 ealswa þone mete þe gehwa brucan wolde, gif him þæt fæsten swa geboden nære, dæle man on Godes est georne æfter þam fæstene eal þearfigendum mannum 7 bedridan 7 swa gebrocedum mannum þe swa fæstan ne magon

[from every hide a penny or the value of a penny shall be given as dues and it shall be brought to church and afterwards divided in three in the presence of the confessor and the reeve of the village as witnesses . . . and wherever such payment has to be made, every penny shall be distributed for the love of God, and likewise all the food which each would enjoy, if this fast

[174] *Chronicon Petroburgense*, 163.
[175] II Edg 2.3; V Atr 11.1; VI Atr 16; VIII Atr 12; I Cn 8.1; Wormald, *The Making of English Law*, i, 308–09 and 342.

were not prescribed for him, shall be zealously distributed after the fast, for the love of God, among the needy and the bed-ridden and the afflicted who cannot fast in this way].[176]

Neilson supports this by drawing on evidence from the Ramsey archive in 1251 which describes a similar payment by name:

de qualibet caruca juncta inter Pascha et Pentecosten unum denarium, qui dicitur Ploualmes, recipit apud Sanctum Ivonem, et pro singulis capitibus junctis eodem tempore in carucis apud Waldehyrst et Wodehyrst unum panem, cujus collectionis medietas remanet vicario, et alia medietas pro voluntate parochianorum erogatur pauperibus

[from every yoked plough between Easter and Pentecost one penny is paid, which is called Plough alms, and is received at St. Ives, and at the same time from every yoked plough at Waldhurst and Woodhurst contributes a loaf of bread, half of which went to the vicar and half to the poor].[177]

It is therefore plausible that VII Æthelred was describing the details and value of plough-alms payments in the early eleventh century. The option of paying 1d or items to the value of 1d could suggest either that some peasants did not have access to coin or that peasants were making informed economic choices about how to pay. It also suggests that even the poorest could have access to coin and were being drawn into the monetary nexus. The twelfth-century survey of Peterborough Abbey also has a possible plough-alms payment. On the manor of Fisherton *de unoquoque bove unde omne isti arant ad*

[176] VII Atr 2.2–3 and 4. Robertson's translation, *Laws of the Kings of England*, 115.
[177] *Cartularium Monasterii de Ramseia*, i, 282; Neilson, *Customary Rents*, 190–91. Neilson's translation.

*Pentecosten, habet dominus i denarium per consuetudinem* ('for every ox used to plough at Pentecost the lord has 1 penny by custom').[178]

### 3.3.6 Other alms

Further alms payments were due in the law code VII Æthelred where every member of a household was to give a *pænig* ('penny') as alms. If he could not give it, his lord gave it for him.[179] This payment was a call from the government for increased charity and morality to win God's favour in the face of the Danish attacks. However, the Tidenham estate survey also reveals that 4 pence as alms (*iiii ælmespeneg*) was due from every virgate annually.[180]

### 3.3.7 Peter's Pence

Peter's Pence (also called *Romfeoh* or hearth-penny) was an annual sum paid from England to the papacy which was collected on the feast day of St. Peter ad Vincula (1st August). Such payments appear to have begun during King Ine of Wessex's reign but probably became regularised under King Alfred and continued to be paid until the Reformation. From the twelfth century at least, Peter's Pence seems to have been valued at 299 marks (47,840d).[181] Excepting Athelstan, all kings who issued their own law codes during this period insisted that Peter's Pence be paid, though Wormald has

178 *Chronicon Petroburgense*, 164.
179 VII Æthelred 5.
180 Robertson, *Charters*, no. 109.
181 H. Loyn, 'Peter's Pence', *Society and Peoples: Studies in the History of England and Wales, c. 600–1200* (London, 1992), 241–58 at 244–45 and 257; Neilson, *Customary Rents*, 53.

made a convincing case that the section on Peter's Pence in I Edmund is a Wulfstanian interpolation.[182]

The *RSP* states that the *cottar* should pay his *heorðpænig … ealswa ælcan frigean men gebyreð* ('hearth-penny … as every free man should') and states that the *gebur* should also pay it.[183] Furthermore, the mid-eleventh-century document entitled 'Agreement with Ordric the Cellarer at Bury St. Edmunds', dated between 1042 and 1066, suggests that urban householders were expected to make this payment:

aelc man in sce Eadmundes Byri husfast on his owe land sal gifen to þe halegenes Bideripe þe hordor on peni at Petermasse on ginning heruest. An sea þat sit on oderes land sea sceal gifen oan halpeni for þat he aalle scolden sceren þe halegenes corn

[every man in Bury St. Edmunds occupying a house on his own land shall give the cellarer a penny on St. Peter's Day at the beginning of harvest, when summoned to the saint's reaping. And he who occupies another man's land shall give a halfpenny, because all of them ought to cut the saint's corn].[184]

The later *Leges Edwardi Confessoris* and *Leis Willelme* state that those in possession of livestock to the value of 30d, or to the value of half a mark (80d) in the Danelaw, were liable to pay Peter's Pence.[185] At 30d this would have included all those who owned 1 ox or 1 cow, 2–5 pigs or 6–8 sheep, which probably covered much of the population. The *Leis Willelme* also states that lords owed a penny on behalf of the servants on their

[182] I Em 2; II Edg 4; V Atr 11.1; VI Atr 18; VIII Atr 10; I Cn 9; see also *LEC* 10; *LW* 17; *LHP* 10. 11.3; *NPL*, 57–59; Wormald, *The Making of English Law*, i, 206–10.
[183] Liebermann, *Gesetze*, i, 445–46.
[184] Robertson, *Charters*, no. 119. Robertson's translation.
[185] *LEC* 10; *LW* 17–17.1

demesnes (*bordiers e ses boverz e ses serjanz*), which probably refers to the unfree population.

Two sources describe the collection of Peter's Pence. The *Northumbrian Priests' Law*, datable to the early 1020s, states that two thegns and a priest were responsible for its collection from each wapentake before taking it to the bishop.[186] Furthermore, the late eleventh-century *Domesday Monachorum* records the collection of Peter's Pence from 45 manors in east Kent which were paid directly to the Archbishop.[187] Barlow argues that more of this render may have been taken by profiteering collectors, who would have rendered the bare minimum to Rome.[188] In 1214 Pope Innocent III complained that he only received 300 marks per year whilst the English bishops were collecting 1,000 marks or more for themselves.[189] Whilst nominally a payment which was sent abroad, it is therefore conceivable that much of Peter's Pence remained within England.

[186] *NPL*, 57. 1–2; Blair, *Church*, 441.
[187] Douglas, *Domesday Monachorum*, 80.
[188] Barlow, *English Church, 1000–1066*, 296.
[189] Loyn, 'Peter's Pence', 244; O. Jensen, 'The "Denarius Sancti Petri" in England', *TRHS*, 15 (1901), 171–247 at 185; *Epistolæ Innocentii III*, ed. S. Baluze, 2 vols. (Paris, 1682), ii, 831.

**Table 20: the values of church dues, 924–1135**

| Due | Paying unit | Value | Date | Place |
|---|---|---|---|---|
| Tithe | Hide | 8d | 1066–86 | Nynehead, Somerset and Hele, Devon |
| Tithe | Hide | 6d | 1127–30 | Stoke Wake, Dorset |
| Tithe | Owner of 1–2 oxen | pennies | 1130s | England (*Leges Edwardi Confessoris*) |
| Tithe | Owner of 1–2 cows | halfpennies | 1130s | England (*Leges Edwardi Confessoris*) |
| Churchscot | Hide | 12d | Post 1066 | Coppington, Berks |
| Churchscot | Sokeman | 1 acre of corn or 4d | 1066 | Stoke Mandeville, Bucks |
| Churchscot | Villanus | 2d | 1125–8 | Fiskerton, Peterborough Abbey |
| Churchscot | Half-villanus | 1d | 1125–8 | Fiskerton, Peterborough Abbey |
| Churchscot | Hide | 5d | 1127–30 | Iwerne Minster, Dorset |
| Soulscot | Guild-brother (thegn?) | 1d | 1000–50 | Abbotsbury, Dorset |
| Soulscot | Guild-brother (commoner?) | 1d | *c.* 1100 | Woodbury, Devon |
| Lightscot | Hide | ½ pennyworth wax thrice yearly | *c.* 1021 | England (II Cnut) |
| Lightscot | Hide | 1 pennyworth of wax | 1125–8 | Glinton, Cambs |
| Plough Alms | Hide | 1d | *c.* 1009 | England (VII Æthelred) |
| Plough Alms | Hide | 1d | 1125–8 | 'Fisherton', Peterborough Abbey |
| Alms | Member of household | 1d | *c.* 1009 | England (VII Æthelred) |
| Alms | Virgate | 4d | 950–1050 | Tidenham, Gloucs |
| Peter's Pence | Every free man | 1d | 924–1135 | England (various sources, see text) |

## 3.4 Dues and payments to the king and to the state

This section will analyse the payments to the king and to the state which are not discussed in the sections on tolls and fines. Some payments relate to ancient services, such as providing carts or horses for transporting the goods of the king or of his officials. Others relate to obligations towards the state such as military service or taxation.

### 3.4.1 Carrying services (avera)

*Avera* was a carrying service for the king rendered by sokemen but levied upon the hide. Round states that it was performed if the king were in the county but was commuted if he were not.[190] *Avera* should be distinguished from the manorial carrying or carting services owed to landlords by peasant tenants (see page 120). Values of *avera* come from Domesday Hertfordshire, Norfolk and Cambridgeshire. In Hertfordshire, the value of *avera* was 4d. For example, in 1066 Ælmær held 2 hides of land and *ii aueras [ve]l viii den[arii] reddeb[at] uicecomiti* ('rendered 2 carrying services or 8 pence to the sheriff').[191] Since *avera* was levied on the hide its value could be subdivided. For example, one sokeman at Lilley held 3½ virgates of land in 1066 and rendered 1 *avera* or 3½d.[192] In Norfolk, 6 sokemen at Kenninghall paid 4d *avera* each.[193] In Cambridgeshire the value of *avera* was 8d. For example, Bruman the sokeman held 1 hide of land at Fordham in 1066 and rendered 1 carrying service or 8d to the sheriff.[194] Picot, the sheriff of

[190] J. H. Round, 'Introduction to the Hertfordshire Domesday', in W. Page (ed.), *The Victoria History of the County of Hertford*, 4 vols. (London, 1902), i, 263–99 at 269–72.
[191] GDB 134c (Hertfordshire 5:11).
[192] GDB 140b (Hertfordshire 34:12).
[193] LDB 178a (Norfolk 9:75).
[194] GDB 189c (Cambridgeshire 1:2M).

Cambridgeshire, may have imposed the heavier dues in this county since the burgesses of Cambridge complained about the imposition of new carrying services.[195]

A later mention of *avera* comes from the *Kalendar* of Abbot Samson (*c.* 1186–91), which records the hundredal revenues due to the abbey at that date (and perhaps reflects a much earlier practice). *Averagium*, or its commuted form of *averpeni*, was among these sources of income and it was meticulously recorded. Davis states that the commutation value for this service was 4d on the carucate, which is similar to the 4d on the hide in Norfolk and Hertfordshire 100 years earlier.[196] For example, at Great Livermere in Thedwestry hundred 11 named tenants (who held 15-acre plots) each owed *iiiid de averp[eni]* ('4d of aver-penny') or 1 horse for the abbot.[197]

### 3.4.2 Guard duty

Guard duty, or ward or watch service, could come in many guises, for example, protecting the king when he was in the vicinity, for guarding castles and bridges, and for maintaining order at public events like markets.[198] An early description of such services is visible in the *RSP* where the *geneat* owed his lord *heafodwearde healdan* ('guard service'), which may have meant riding with him.[199] In the thirteenth century the service was usually commuted to a cash payment called 'wardpenny', but there are some earlier

[195] GDB 189a (Cambridgeshire B:11).
[196] R. H. C. Davis, 'Introduction', in R. H. C. Davies (ed.), *The Kalendar of Abbot Samson of Bury St. Edmunds and Related Documents*, Camden Society (London, 1954), ix–xlvii at xxxv.
[197] Ibid., 5–6.
[198] Neilson, *Customary Rents*, 131.
[199] Liebermann, *Gesetze*, i, 445.

examples of this which appear to be describing a similar phenomenon.[200] In late eleventh-century Kent:

In Liuuartlest in briseuuei h[abe]t rex c[o]suetudine[m] scilicet ii caretas 7 ii sticas anguillar[um] p[ro] uno Ineuuardo, 7 in t[er]ra sophis h[abe]t xii den[arii] p[ro] uno Ineuuardo, 7 de uno jugo de northburg xii den[arii] aut unu[m] Ineuuard[um], 7 de dena xviii den[arii], 7 de Gara unu[m] Ineuuard[um].

[In Lympne Lathe, in *Briseuuei*, the king has a customary due, namely, [service of] 2 carts, and 2 sticks of eels for 1 [term of] escort-service, and in the land of *Sophis* he has 12d for 1 [term of] escort-service; and from 1 yoke [of land] in *Northburg* 12d, or 1 [term of] escort-service, and from Dean 18d; and from *Gara* 1 [term of] escort-service].[201]

Escorting the king (*ineuuard* or *inweard* in Old English) in Lympne Lathe therefore had values of 12d or 18d. The fact that the escort service at *Briseuuei* was commuted to carts and eels suggests that coin was used for the other commuted services. Other values for escorting the king appear in Domesday Cambridgeshire where they could be commuted for 4d. For example, at Burwell 1 sokeman owed 1 *ineuuard* or 4d whilst at West Wratting 4 sokemen each owed *inguard* or 4d *si rex veniret in scyra* ('if the king came into the shire').[202] Like *avera*, escort services appear to have been owed by sokemen or other agents of the late Anglo-Saxon State, such the *radmen* of Herefordshire and Worcestershire who also owed messenger and carrying services.[203]

[200] Faith, *English Peasantry*, 99.
[201] GDB 1b (Kent D:24). Translation from *The Kent Domesday*, eds. A. Williams and R. W. H. Erskine (London, 1992), 97.
[202] GDB 195c (Cambridgeshire 14:69); GDB 190d (Cambridgeshire 5:5).
[203] J. Campbell, 'Agents and Agencies', 216. GDB 185a (Herefordshire 10:58), GDB 177a (Worcestershire 21:4), GDB 175b (Worcestershire 8:26b).

The Winton Domesday of *c.* 1110 records the custom of *wata* on several of Winchester's urban tenancies.[204] Barlow translates this as 'Watch' following Neilson's interpretation of *ward* where markets and fairs in urban scenarios were watched or supervised.[205] Unfortunately, no commutable values were given. However, on the contemporary estate survey for Holy Trinity, Caen, every house (*domus*) on the manor of Felstead, Essex, owed *iid de consuetudine* ('2d for the custom'). Chibnall suggests that this was wardpenny since on the later survey of Felstead made in the first half of the thirteenth century there are properties which render *iid ad gward*.[206] It is unclear, however, what type of guard duty was being described here.

Guard service also appears in the *Kalendar* of Abbot Samson. Sometimes it was performed. For example, at Hesset and Beyton some of the sokemen *faciunt gardam in villa sancti Eadmundi* ('performed guard service at Bury St. Edmunds'). These men held relatively large 60-acre plots so may have had the resources to carry out the service.[207] Most of the time the abbot collected *warpeni* ('wardpenny'). The 2 sokemen rendering the service also paid 1d and 4d of *warpeni* though a third sokeman with 60 acres who did not render guard service paid 9d. In the same village, 10 further sokemen rendered sums of wardpenny between 2 and 6d.[208]

[204] Barlow, 'Winton Domesday', 39, 45, 46, 53 and 56.
[205] Ibid., 15; Neilson, *Customary Rents*, 131.
[206] Chibnall, *Holy Trinity, Caen*, 34 and 87–92.
[207] Davis, 'Introduction', xxxv–vi and 13.
[208] Ibid., 13–14. The *summa* of wardpenny states that 59d ought to have been collected.

### 3.4.3 Military Service

One of the chief public burdens upon the late Anglo-Saxon state was the provision of battle-ready soldiers for service in the king's army, or fyrd. The Berkshire Domesday entry gives the fullest account of how such a warrior was raised and paid for:

Si rex mitteb[at] alicubi exercitu[m] de v hid[is] tant[um] un[us] miles ibat [et] ad ei[us] victu[m] [vel] stipendiu[m] de una quaq[ue] hida dabant[ur] ei iiii solidi ad ii menses. Hos u[ero] denar[ios] regi n[on] mittebant[ur] sed militib[us] dabant[ur].

[If the king sent out an army anywhere only 1 thegn went out from [each] 5 hides, and for his sustenance or pay 4s for 2 months was given him from each hide. This money, however, was not sent to the king, but given to the thegns].[209]

The total *victum vel stipendium* paid directly to the warrior for 2 months of service would therefore have been 20s. Dividing this by the approximate 60 days in 2 months generates a figure of 4d per day. Hollister describes the events of 1094 whereby William II summoned a large body of men to the south coast for overseas duty, only for him to send them home but take the 10s (120d) that the shires had provided each man for their *victum*. Hollister then states that documents of the period often show payments given in 2 instalments and suggests that the men were initially given 10s for their *victum* with the remaining 10s *stipendium* paid upon their return.[210]

[209] GDB 56c (Berkshire B:10); translation taken from *The Berkshire Domesday*, eds. A. Williams and R. W. H. Erskine (London, 1988), 54.
[210] C. Warren Hollister, *Anglo-Saxon Military Institutions on the Eve of the Norman Conquest* (London, 1962), 43–44.

Further entries in Domesday Book relate to military service and payments. When an expedition (*expeditio*) occurred on land or at sea Exeter *seruiebat hæc ciuitas quantu[m] v hidæ* ('gave as much service as 5 hides of land'), as did the towns of Barnstaple, Lydford and Totnes.[211] The entry for Malmesbury also describes the king taking a man *p[er] honore v hidaru[m]* ('for each honour of 5 hides').[212] This evidence may imply that the description of military service and the payments which lay behind it in Berkshire were not confined to that county.

Other towns give a more varied picture. If a military campaign were to take place on land then 12 burgesses of Leicester served in the army, as did 20 burgesses from Oxford and 10 burgesses from Warwick. At Oxford, military service on land was commutable by a payment of £20 (£1 per burgess), though nothing like this is stated for Leicester or Warwick. However, if the military campaign were at sea then the burgesses of Leicester were to provide 4 horses from the borough as far as London.[213] At Warwick, a sea campaign required the burgesses to send either 4 *batsueins* ('boatmen') to the king or *iiii lib[ras] denario[rum]* ('£4 of pence') which amounts to £1 per *batsuein*.[214] This latter payment, along with the £1 commutation for the Oxford burgess, is equivalent to the 20s paid to the Berkshire thegn, although the length of time that the *batsuein* and the burgess were to serve is not stated.

Further obligations and payments in Domesday Book were related to military service. At Maldon the burgesses were required to find a horse for a land campaign and to make

211 GDB 100a (Devon C:5–6).
212 GDB 64c (Wiltshire B:5).
213 GDB 230a (Leicestershire C:2).
214 GDB 154a (Oxfordshire B:2); GDB 230a (Leicestershire C:2); GDB 238a (Warwickshire B:6).

a ship.[215] At Lewes, the burgesses rendered 20s to the men *qui in nauib[us] arma custodiebant* ('in charge of the arms on the ships') who were guarding the coast in the king's absence.[216] Similarly, from Malmesbury the borough rendered 20s *ad pascendos suos buzecarl[es]* ('to feed the king's boatmen') when the campaign was at sea.[217] Finally, at Colchester every house was to render 6d for provisioning the king's soldiers whether on land or at sea, which would have generated a total of £15 5s 3d.[218]

Related evidence to soldiers' pay can be found in the *Chronicle* for the year 1040 when it states: 'King Harold died...And in his time sixteen ships were paid for at 8 marks [1,280d] to each rowlock, just as had been done in King Cnut's time…'.[219] John of Worcester also states that alongside these rowlocks the steersmen were paid 12 marks (1,920d) each.[220] It is often presumed that the recipients of this payment were Scandinavian mercenaries or 'housecarles' in a standing army.[221] This view appears to receive support from the *Chronicle* in 1041 since it states that 'in this year the army tax was paid, namely £21,099, and later £11,048 were paid for 32 ships'.[222] However, Hooper argues that the recipients of the army tax were not mercenaries or housecarles, who were similar to other household warriors, but *liðsmen*, who were soldiers who served in the royal fleet but who could also serve on land.[223] However the soldiers are categorised, is possible to calculate rough daily-wage estimates from the former figures.

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215 LDB 48a (Essex 24:63).
216 GDB 26a (Sussex 12:1).
217 GDB 64c (Wiltshire B:5); Williams, *Kingship and Government*, 143.
218 LDB 107a (Essex B3–7:6).
219 *ASC* E *s. a.* 1039, *recte* 1040, 105.
220 *The Chronicle of John of Worcester: The Annals from 450 to 1066*, eds. R. R. Darlington and P. McGurk 2 vols. (Oxford, 1995–8), ii, 530–31.
221 L. M. Larson, *The King's Household in England before the Norman Conquest* (Madison, 1904); Hollister, *Anglo-Saxon Military Institutions*, 9–19; Campbell, 'Agents and Agencies', 203–07.
222 *ASC* E *s. a.* 1040, *recte* 1041.
223 N. Hooper, 'The Housecarls in England in the Eleventh Century', *ANS*, 7 (1984), 161–76 at 170; Hollister, *Anglo-Saxon Military Institutions*, 17–18.

Hollister derived a figure of 3½d for the soldier or 'rowlock'. He must therefore have taken a mark at 13s 4d and calculated the following:

13s 4d = 160d

160d x 8 marks = 1,280d

1,280d / 365 days = 3½d per day

Hollister observes that this figure is fairly close to the 4d per day of the 1066 Berkshire thegn, and attributes the halfpenny increase to a rise in the cost of living between these two dates.[224] Using the same calculation, the steersmen of John of Worcester would have been paid 5.3d per day. The figure for the rowlock, however, comes with a caveat since the number of rowlocks does not necessarily equal the number of crew. For example, the mid-eleventh-century Skuldelev 2 Viking ship, discovered around 20km north of Roskilde, Denmark, had 60 rowers but a possible total crew of 65 men.[225] It is therefore not entirely clear whether the 8 marks were paid to just the rowers or whether it was split amongst the whole crew (excluding the steersmen).

Furthermore, there is debate over the value of a mark in this period. Lyon asserts that the mark was actually 10s 8d (128d). He argues that when silver payments were made by weight a surcharge of 25 per cent by tale was levied in order to ensure that the silver content of the payment would be met. Thus a mark of account in this period would

[224] Hollister, *Anglo-Saxon Military Institutions,* 106.
[225] O. Crumlin-Pedersen and O. Olsen (eds.), *The Skuldelev Ships I: Topography, Archaeology, History, Conservation and Display* (Roskilde, 2002), 174.

have been 10s 8d, and a surcharge of 25 per cent on this would make 13s 4d.[226] Lawson later used the mark of 10s 8d to deduce that a royal mercenary ship contained around 80 men. This figure is comparable to the 80-strong crew of a ship, described by John of Worcester, that Earl Godwin gave to Harthacnut to appease the latter's anger over the murder of Alfred Ætheling.[227] Using this figure, the daily wage of a rowlock or soldier in 1040 was 2.8d per day and that of a steersman would have been 4.2d per day.

However, Abels demonstrates that the king did not enjoy monopoly control over ship construction and that ship sokes may have produced vessels of varying sizes. He draws attention to a probable early eleventh-century Bishop of London who only owed 45 sailors from his ship soke, and to the 21-crew ships which Dover and Sandwich supplied under Edward the Confessor in 1066.[228] Additionally, Nightingale has criticized Lyon's use of evidence regarding the nature of the mark. She states that the Worcester entry in Domesday Book shows that payments at 20d to the ora (a unit which suggests a payment made by weight) were calculated at 240d in the pound like those *ad numerum*, but by Lyon's calculations they should have been paid at the rate of 300d to the pound with a 25 per cent surcharge, but we do not see this. Units of 16d to the ora, Nightingale believes, were customary Danish survivals since they are mostly found in the Danelaw.[229] The ship and mark figures provided by Lawson and Lyon are therefore

[226] C. S. S. Lyon, 'Historical Problems of Anglo-Saxon Coinage–(3) Denominations and Weights', *BNJ,* 38 (1969), 204–22 at 210.
[227] M. K. Lawson, 'The Collection of Danegeld and Heregeld', 737–38 though he does note that it could well have been 13s 4d. If this were the case, however, a ship's crew would be reduced to sixty-five men; *Chronicle of John of Worcester*, ii, 530–31. Further, Keynes has questioned the veracity of this, suggesting that John was confusing this gift of a ship with Godwine's gift to Edward the Confessor, S. Keynes and R. Love, 'Earl Godwine's Ship', *ASE*, 38 (2009), 185–223 at 202–03.
[228] Abels, *Lordship and Military Obligation*, 109–10; Robertson, *Charters*, no. 72, 144–45; GDB 1a (Kent D:2) and GDB 3a (Kent 2:2).
[229] Nightingale, 'The Ora, the Mark and the Mancus', i, 250–51 and 256.

problematic, which has consequences for the daily wage figures of the *Chronicle* rowlocks.

In summary, the figures for soldiers' wages could be considered somewhat crude because they assume a week of 7 days. It is possible that Sundays were not considered working days. The issue of rowlocks and crew numbers is also problematic. Nevertheless, the figure of 3½d pay per day for a mid-eleventh century naval soldier and 5.3d per day for a steersman is the best available estimate. These wages taken annually represent £4 5s 4d (soldier) and £6 8s (steersman) and Campbell draws attention to the fact that these two figures are approximately equilvalent to the annual value of 5 hides of land.[230] This was the area assessed to support a warrior or thegn of the select fyrd, and if he were paid all year round for continual service he would have earned £6. Campbell describes wages of this magnitude as 'big money' and states that these men would have been considered 'really well off' compared to a prosperous post-Conquest *miles* who received on average 1½ hides per holding.[231]

### 3.4.4 Taxation

Something approximating to national taxation may have been in existence from the early tenth century. Hart has suggested that East Anglia was divided into hundreds after Edward the Elder's conquest and that with it came tax liability.[232] The law code VI Athelstan also states that *þæt we cwædon, þæt ure ælc scute iiii pæng to ure gemæne þearfe binnan xii monðum* ('we have declared that each one of us shall annually contribute four pence

[230] J. Campbell, 'Agents and Agencies', 206.
[231] S. Harvey, 'The Knight and the Knight's Fee in England', *P&P*, 49 (1970), 3–43 at 12–18.
[232] C. Hart, *The Danelaw* (London, 1992), 76–82.

for our common benefit').[233] However, the precise nature of this payment is unclear, and since VI Athelstan is known as the London Ordinance it may only be referring to payments in and around that city.

As the administrative framework of shires and hundreds developed during the tenth and early eleventh centuries so did the opportunities for the king to tax his subjects. No pre-Conquest sources regarding tax assessment survive, but Williams suggests that because Domesday Book gives both pre- and post-Conquest hidages there may have been documents which have not survived.[234] These may have looked like the Northamptonshire geld rolls of 1075x1083, where assessment lists for taxation were based on the hundred.[235] That coin was collected is suggested by a couple of places in the text which state that from some hides *ne com nan peni of* ('not a penny has been received').

The most well-known tax of the period was the *heregeld* (see pages 29–30, 197–98 and 221–22), which was levied between 1012 and 1051, and further taxes were levied after this point which were modelled upon it.[236] The Berkshire Domesday states that in the time of King Edward every hide paid 3½d of the geld before Christmas and a further 3½d at Pentecost.[237] In 1086, the *Chronicle* records that a severe (*micel*) geld was raised by William I across England, and the surviving geld lists of south-western England for the

[233] VI As 2.
[234] Williams, *Kingship and Government*, 144.
[235] Robertson, *Charters*, App. I, no. 3.
[236] J. Campbell, 'Hundreds and Leets: A Survey with Suggestions', in C. Harper-Bill (ed.), *Medieval East Anglia* (Woodbridge, 2005), 153–67 at 161.
[237] GDB 56c (Berkshire B:10).

same year demonstrate that the rate of payment was 6s (72d) on the hide.[238] In the twelfth-century, the *Leges Edwardi Confessoris* states that a tax called *denegeldum* was levied at 12d on every hide across England.[239] Furthermore, Henry I also took an annual geld of 2s (24d) on every hide, which the 1130 pipe roll calls 'danegeld', and this practice may have dated back to at least 1086.[240]

On one level tax appears to have been paid by property holders.[241] Lawson has drawn attention to various eleventh-century examples where the failure of property holders to pay geld resulted in them forfeiting their lands.[242] For example, at Libury, Hertfordshire, in 1086 Peter the sheriff confiscated half a virgate and 10 acres from a sokeman who had held this land in 1066 because he had not rendered the king's geld.[243] Similarly, Faith has argued that free men and sokemen paid geld because they owned their own lands.[244]

The so-called *Feudal Book of Abbot Baldwin*, dated variously between 1087 and 1119, surveys the hundreds of Thedwestrey, Blackbourn and Cosford, parts of which were owned by the abbey of Bury St. Edmunds.[245] The third section of this survey individually lists the names of the free men and sokemen together with their holdings

238 *ASC* E, *s. a.* 1085 (*recte* 1086); R. Welldon Finn, *Domesday Studies: the Liber Exoniensis* (London, 1964), 97.
239 *LEC* 11–11a.
240 PR 31 Henry I, 7–9; GDB 246a (Staffordshire B:11); J. Green, 'The Last Century of Danegeld', *EHR*, 96 (1981), 241–58 at 241–42.
241 P. Vinogradoff, *English Society in the Eleventh Century* (Oxford, 1908), 143–45.
242 Lawson, 'Collection', 723–25.
243 GDB 141a (Hertfordshire 36:9).
244 Faith, *English Peasantry*, 89–125, esp. 114–16.
245 *Feudal Documents from the Abbey of Bury St. Edmunds*, ed. D. C. Douglas, British Academy, Records of the Social History of England and Wales, 8 (London, 1932), 1–44 and xlix; V. H. Galbraith, 'The Making of Domesday Book', *EHR*, 57 (1942), 161–77 at 168; Lennard states that it should be dated to no later than 1119, *Rural England*, 359.

and payments. For example, from the vill of 'Bertune' in Thedwestrey hundred *Ailric Brenebrec tenet x acras et reddit ix denarios … Goduui Haiuuart xii acras et reddit xii denarios …* ('Ailric Brenbrek holds 10 acres [and renders] 9 pence … Godwin Hayward [holds] 12 acres and renders 12 pence …').[246] Comparison of the *Feudal Book* with the late twelfth-century *Kalendar* of Abbot Samson shows that these payments relate to a render called *hidagio* ('hidage'). In the *Kalendar* the payments are described as coming from *ware* acres, and Davies demonstrates that the number of *ware* acres for each vill in the *Kalendar* matches very closely to the number of acres per vill in the *Feudal Book*.[247] The word *ware* derives from the Old English for 'defence', and *warland* refers to land that paid dues to the state.[248] Campbell argues that the hide (or carucate) may have been subdivided into *ware* acres for tax assessments, perhaps as a way of allocating geld obligations within vills.[249]

Davies argues that the hidage payments do not relate to geld assessment because the *Kalendar* also separately calculates 'Danegeld' payments per vill, which do not match with the amounts of hidage paid per vill.[250] Campbell draws attention to the fact that in Domesday Book the counties of Norfolk and Suffolk were assessed for geld using two different systems. The first was through a system of assessment based on the carucate, as previously explained. The second was a system of assessment based upon hundreds, subdivided into units known as leets. When the hundred paid 20s of tax, the burden was subdivided amongst the leets and within each leet upon individual vills. For example, in the hundred of Clackclose, Norfolk, the vill of Beechamwell rendered 8d of the 20s

246 *Feudal Documents*, 25.
247 Ibid., cxxii–v; Davies, 'Introduction', xxxvi–xl.
248 Faith, *English Peasantry*, 90
249 Campbell, 'Hundreds and Leets', 160–63.
250 Davis, 'Introduction', xxxvii–viii and xlv–xlvi; see also Davis, 'East Anglia and the Danelaw', 23–39; E. Day, 'Sokemen and Freemen in Late-Anglo-Saxon East Anglia in Comparative Context', (University of Cambridge Ph.D. Thesis, 2011), 49 and 222–23.

geld.[251] Campbell then argues that in Domesday Book these two systems of tax assessment do sometimes relate to each other, such as in Lackford hundred, and that this may solve the discrepancy between the figures given in the *Kalendar*.[252] Furthermore, Neilson uses thirteenth and fourteenth century evidence to suggest that hidage was the name for the old land tax or geld.[253] On the balance of probability, hidage appears to have been a remnant of geld assessment on the hide or carucate, paid by free men and sokemen at approximately 1d per acre.

The south-western geld rolls and Exon Domesday demonstrate the mechanism by which coin was collected at the lower levels of society, especially from the *villani*.[254] We have seen that certain royal agents, for example the *portatores* of Devon, transported coin in wagons to the king's treasury.[255] These *portatores* appear to have taken delivery of this coin from tax collectors. In Somerset and Devon they were known as *fegadri* and *hundremanni*, and in Devon and Wiltshire *congregatores* and *collectores*. The tax collectors may have accounted for the tax within their shires with the sheriff or the earl, but they had initially collected the tax from the manorial reeve (*prefectus*).[256] It is probable that these reeves had collected the tax directly from *villani*. This is suggested by the many entries in the south-western geld rolls where the *villani n[on] habuit rex Gildu[m]* ('did not have (or 'have failed to pay') the king's geld'), and also in an entry for Hilton hundred, Dorset, where *exceptis sup[ra]dictis denariis restant xv sol[idi] de t[er]ra heroldi q[uas] e[x] t[er]ra*

[251] LDB 251b (Norfolk 31:29).
[252] Campbell, 'Hundreds and Leets', 161–62; R. Welldon Finn, *Domesday Studies: the Eastern Counties* (London, 1967), 111.
[253] Neilson, *Customary Rents*, 115–20.
[254] Welldon Finn, *Liber Exoniensis*, 97–123, esp. 100–08.
[255] *Domesday Book, seu Libri Censualis*, iv, 65 and 489.
[256] For example, Williams, 'Dorset Geld Rolls', 140–41; *Domesday Book, seu Libri Censualis*, iv, 12–13.

*uillano[rum]* ('excepting the aforementioned pence there remains 15 shillings [of geld] from the land of [earl] Harold which is of the land of the *villani*').[257]

Further Domesday evidence emphasises the fact that the *villani* were closely involved in paying geld. The entry for Hurstingstone hundred, Huntingdonshire, states that *vill[an]i 7 soch[emann]i geldant s[e]c[un]d[u]m hidas in brevi scriptas* ('the *villani* and sokemen pay geld according to the hides recorded in the returns').[258] Furthermore, an entry in Exon Domesday, copied into Great Domesday, refers to half a hide of land which was once exempt but now paid geld injustly *ut terra villanorum* ('like the land of the *villani*').[259] Domesday Middlesex describes the holding sizes of the *villani*, *bordarii* and *cottars* in virgates and acres, and Bridbury argues that these measurements represent the fiscal obligations upon these tenants.[260] Roffe has similarly suggested that in northern England 'only the peasants who were responsible for the payment of the geld are recorded'.[261]

The inhabitants of towns also paid geld. For example, the Domesday entry for Oxford states that 243 houses rendered geld but that 478 were so wasted or destroyed that they could not render any.[262] In the Winton Survey, Ralf of Fougeres held 1 *domus* and paid no custom for it except geld, but Herbert the Chamberlain held another *domus* and acquitted his men of paying the geld, which may suggest that Herbert paid the geld on

[257] For example, in Keynsham hundred, Somerset, *Domesday Book, seu Libri Censualis*, iv, 67
[258] GDB 203b (Huntingdonshire B:21); Faith, *English Peasantry*, 114–15; Harvey, 'Taxation', 252.
[259] *Domesday Book, seu Libri Censualis*, iv, 188; GDB 121b (Cornwall 4:29); see also Harvey, 'Domesday England', 56.
[260] A. R. Bridbury, 'Domesday Book: a Re-interpretation', *EHR*, 105 (1990), 284–309 at 295–96; GDB 128b (Middlesex 4:5).
[261] D. Roffe, 'Domesday Book and Northern Society: a Reassessment', *EHR*, 105 (1990), 310–36 at 333.
[262] GDB 154a (Oxfordshire B:4).

his tenants' behalf.[263] Further urban evidence suggests that the very lowest strata of the peasantry contributed to geld payments. On 2 ferdings in Huntingdon, 116 burgesses rendered all customs and the king's geld, and 100 *bordarii* under them *adjuuant eos ad p[er]solution[m] geldi* ('help the burgesses pay geld').[264] Furthermore, at Malmesbury the abbot had 9 *cottars* (*coscez*) just outside the borough *q[u]i geldant cu[m] burg[en]sib[us]* ('who pay geld with the burgesses').[265] The cumulative effective of this evidence is to demonstrate beyond reasonable doubt that ordinary people in the countryside and towns routinely paid tax in coin.

**Table 21: the values of payments and services to the king and to the state, 924–1135**

| Payment | By whom | Value | Date | Place |
|---|---|---|---|---|
| *Avera* | Sokemen | 4d per hide | 1066 | Hertfordshire |
| *Avera* | Sokemen | 4d | 1066 | Norfolk |
| *Avera* | Sokemen | 8d per hide | 1066 | Cambridgeshire |
| Escort service | Men from Lympne | 12 or 18d | 1066 | Kent |
| Escort service | Sokemen | 4d | 1066 | Cambridgeshire |
| Wardpenny | Each house | 2d | 1106–13 | Felstead, Essex |
| Wardpenny | Sokemen of Bury St. Edmunds | 2d–9d | 1186–91 | Bury St. Edmunds |
| Military Service | (to support warrior) | 4d per day | 1066 | Berkshire |
| Military pay | (to support an oarsman in a warship) | 3½ d per day | 1041 | England |
| Military pay | (to support a steersman) | 5.3d per day | 1041 | England |
| Hidage | Sokemen of Bury St. Edmunds | 1d per acre | 1100–35 | Bury St. Edmunds |

[263] Barlow, 'Winton Domesday', 35–36.
[264] GDB 203a (Huntingdonshire B:1).
[265] GDB 64c (Wiltshire M:3).

## 3.5 Fines

I described in chapter 1 how the development of law in late Anglo-Saxon England helped to solidify the king's position both politically and ideologically. The existing law codes from the period, together with evidence from Domesday Book and early twelfth-century legal texts, supply precious data relating to fines (Old English, *wite*) usually payable to kings, royal officials, and the holders of judicial privileges, and compensations (Old English, *bot*) usually payable to injured parties.[266] Most of the fines described in the documentary sources can be grouped into the following broad categories: breach of the peace, obstructing highways and waterways, homicide, theft, religious fines, non-performance of duties, and commercial fines. Most of these fines were punishable with considerable sums of money, often between half a pound (120d) and £8 (1,920d). I shall discuss a selection of these fines, within the framework of the aforementioned categories, but will treat those with lower-values in more depth. A list of all the fines from the documentary sources of the period can be found in Appendix B. I have assumed that all shillings in the Anglo-Saxon law codes were of 5d. This is because the later codes of Æthelred II and Cnut often repeat earlier tenth-century fines in the codes of the West-Saxon kings who probably used the 5-pence shilling. Domesday Book uses the 12-pence shilling, as does the *Leges Edwardi Confessoris*. However, the *Leis Willelme* uses both 4-pence and 12-pence shillings, and the *Leges Henrici Primi* uses 5-pence and 12-pence shillings.

[266] F. Pollock and F. W. Maitland, *The History of English Law Before the Time of Edward I*, 2 vols. (Cambridge, 1911), i, 48.

### 3.5.1 Types of fines and selected values of punishments

The highest fine in all the documentary material comes from Domesday Book and relates to breach of the king's peace in Derbyshire, Nottinghamshire, Yorkshire and Lincolnshire. The surrounding 18 hundreds to where the offence took place were each liable to pay £8, which would have totalled a colossal £144 for the affected region (34,560d).[267] This system of collective responsibility seems peculiar to the Danelaw territories since there is no evidence for its implementation anywhere else in England, and Maitland argues that it could have been the inspiration for the frankpledge and murder fine systems introduced after the Conquest.[268] Breach of the peace in Domesday Chester, Dover, Hereford, Shrewsbury and Worcester was £5 (1,200d), payable by the offender, although in Chester if the peace were given by the *p[rae]positus regis aut ministro comitis* ('king's reeve or the earl's officer') the fine was £2 (480d).[269]

Fines for murder often concentrate on the racial and legal differences within England. Towards the end of the tenth century, II Æthelred states that the penalty for a Dane killing an Englishman, and vice versa, was £25 (6,000d), which was an enormous sum, although the fine for killing an English or Danish slave was just £1 (240d).[270] The distinction between Dane and Englishman may have been the inspiration for the post-Conquest *murdrum* fine.[271] This was levied when a dead body was discovered and its identity could not be established, whereupon it was assumed to have been Norman. The

[267] GDB 280c (Derbyshire S:1), GDB 280c (Nottinghamshire S:1), GDB 298d (Yorkshire C:38), GDB 336c (Lincolnshire C:32).
[268] F. M. Stenton in *The Danes in England* (London, 1927), 37; F. W. Maitland, 'The Criminal Liability of the Hundred' in H. A. L. Fisher (ed.), *The Collected Papers of Frederick William Maitland*, 3 vols. (Cambridge, 1911), i, 230–246.
[269] GDB 262c (Cheshire C:3); GDB 1b (Kent D:15); GDB 179a (Herefordshire C:13); GDB 252a (Shropshire C:2); GDB 172a (Worcestershire C:4).
[270] II Atr 5–5.1.
[271] Maitland, 'Criminal Liability', 230–46; Cooper, 'Anglo-Saxon Law of the Highway', 55–58; B. R. O'Brien, 'From *Morðor* to *Murdrum*: The Preconquest Origin and Norman Revival of the Murder Fine', *Speculum*, 71 (1996), 321–57.

fine levied upon the vill where the body was discovered was 46 marks (7,360d), with 40 marks payable to the king and 6 marks going to the victim's relatives if they could be established.[272] The *Leges Edwardi Confessoris* implies that this immense sum was paid in coin:

Sed quia villa omnino confundebatur, prouiderunt barones quod per hundredum colligerentur et sigillarentur sigillo alicuius baronum comitatus et deportarentur ad thesaurum regis, quas ille seruaret per annum integrum. Quod si infra annum posset murdritor inueniri, fieret de eo iusticia, et ipsi rehaberent marcas suas

[But because the vill would be confounded, the barons provided that [the marks] be collected throughout the hundred and sealed by the seal of any of the barons of the county and conveyed to the king's treasury for him to preserve for an entire year. And if the murderer could be found within a year, justice would be done to him, and they themselves would have their marks back].[273]

Highways were special areas protected by the king's peace and, as such, offences committed upon them were punishable with heavy fines.[274] For instance, the Nottinghamshire Domesday states a fine of £8 (1,920d) which was levied if someone were caught ploughing or making a ditch within 2 perches (between 10 and 15 metres) of the king's road to York.[275] A late-eleventh-century miracle story suggests that such fines may have been paid since St. Augustine himself prevented one of the monks of Christ Church, Canterbury, from being accused of digging up the highway.[276]

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272 'The Ten Articles of William I' 3.1; *LEC* 15; *LW* 22; *LHP* 13.2 and 91.1.
273 *LEC* 15.4. O' Brien's translation, *God's Peace & King's Peace,* 173–75.
274 A. Cooper, 'The Rise and Fall of the Anglo-Saxon Law of the Highway', *Haskins Society Journal*, 12 (2002), 39–69 at 46–48.
275 GDB 280a (Nottinghamshire B:20).
276 Goscelin, 'Miracula Sancti Augustini episcope Cantuariensis', in *Acta Sanctorum Maii*, vi, 3rd edition (Paris, 1886), 393–408 at 402.

Theft was an ongoing concern for the Anglo-Saxon and Norman administrations and a variety of penalties reflect the severity of the offence. VI Athelstan states that death was the penalty for stealing goods worth over 12d if the thief were over 12 years old.[277] However, the same law code states that if anyone were convicted of stealing a slave then they owed half a pound (120d) to the crown and a form of compensation to the owner of the slave depending on its appearance.[278] The authorities also took theft of livestock very seriously, and in the Anglo-Saxon law codes there were fines for neglecting to help the trail of stolen oxen (30d or an ox) and a heavier fine of 120s (600d) for hindering the pursuit of stolen cattle.[279] Perhaps the former fine was aimed at gently prompting peasants to do their duty since 30d or an ox may have been a tangible sum to extract from a *gebur* or *kotsetla* rather than the threat of a huge fine.

Religious fines came in a number of guises. For example, non-payment of Peter's Pence in the *Northumbrian Priests' Law* incurred a fine of 10 half-marks (800d) if one were a king's thegn or the lord of an estate. However, if one were a villager (*tunesman*) then his lord would pay the penny but would fine the *tunesman* 1 ox (which would have been valued at around 30d). Similarly, fines for the non-payment of plough alms in VII Æthelred were structured according to social rank: a householder (*bunda*) paid 30d but a thegn (*þegn*) paid 30s (150d). A slave (*þræl*) was to undergo the lash, perhaps because he would not have had the financial means to pay a fine.[280] Further, the Latin version of

[277] VI As 1.
[278] VI As 6.3.
[279] VI As 8.5; III Em 6.2.
[280] VII Atr 3.

VII Æthelred states that the fine for breaking a three-day fast was 120s (600d) for a king's thegn (*tainus regis*) and 30d for a poor free man (*liber pauper*).[281]

Fines were also levied upon those who did not perform their administrative duties. Absence from the hundred court in Domesday Chester by a man of the king, bishop or earl incurred a fine of 10s (120d) but the same offence committed by a free man between the Ribble and the Mersey incurred a fine of 5s (60d).[282] In Suffolk, if 2 or 3 free men failed to attend the hundred court then each paid a fine of 2 oras (32d).[283] Once again, such fines may have been levied according to the status of the offender: higher fines for thegns and lower fines for free men.

Fines for offences connected with commerce could often be heavy yet many were relatively light, which may be a reflection on the number of low-status individuals engaged in trade. For example, the laws attempted to proscribe Sunday trading throughout the period with fines imposed on those caught in the act: 30s (150d) in II Athelstan and 12 oras (192d) for a freeman in the *Northumbrian Priests' Law*. However, a lower fine of 4s (48d) was levied on merchants who opened their goods between Saturday noon and Monday in Chester in 1086.[284] In Domesday Nantwich, a fine of 40s (480d) was imposed on those who made 2 *summae* of salt out of 1.[285] On the other hand, fines of 2s (24d) existed for both overloading a cart so that the axle broke and for overloading a horse so that its back broke.[286] The latter fine may have been affordable

[281] VII Atr 2.4.
[282] GDB 262d (Cheshire C:20); GDB 269d (Cheshire R1:40d).
[283] LDB 312a (Suffolk 6:89a).
[284] II As 24.1; *NPL* 56; GDB 263a (Cheshire B:2).
[285] See also the fine of 4s (48d) for false measure in Domesday Chester, GDB 262c (Cheshire C:18).
[286] GDB 268b (Cheshire S2:2).

to someone who was in the position to be able to buy cartloads or *summae* of salt, such as the local traders which are outlined in Domesday Book.[287] Perhaps the fact that one had killed one's horse or destroyed one's cart was enough of a punishment, and this may account for the far larger fine payable by the fraudster making 2 *summae* of salt out of 1. Finally, in Domesday Chester a fine of 4s (48d) was charged for brewing bad beer.[288] However, this fine could be evaded by the offender by sitting in a *stercoris* ('cucking-stool') and having muck thrown at them. Public humiliation, as well as physical discomfort and the risk of injury, was thus valued at 48d. Nevertheless, this fee may have been payable by brewers since they are already found paying customary dues of 10d within and without the city of Hereford in 1066.[289]

### 3.5.2 The impact of fines and the ability to pay

The values of judicial fines and compensations could be very high in relation to the values of objects and movables and to the other payments discussed in this chapter. It is conceivable that if a fine was imposed upon a noble, a cleric, a governmental or administrative official or a wealthy merchant then they may have been able to pay it off in full and probably in coin. However, what if a peasant had breached the peace and had to pay a fine of 1,200d? The estimates of peasant income (see pages 180–2) suggest that those holding between 5 and 30 acres generated between 10d and 80d of wealth per year, so such a fine would have been utterly ruinous. One possibility to remit the debt may have been to pay using labour. For example, if a *villanus* owed 2 days labour per week then this may have been increased as a punishment. In the worst case scenario, a

[287] GDB 268a (Cheshire S3:3); Whitelock, *Beginnings*, 116.
[288] GDB 262c (Cheshire C:18).
[289] GDB 179a (Herefordshire C:7).

peasant may even have been subject to slavery. The *Leges Henrici Primi* offers some support for this line of argument when it states:

Serui alii natura, alii facti, et alii emptione et alii redemptione, alii sui vel alterius datione serui, et si que sunt alie species huiusmodi quas tamen omnes uolumus sub uno seruitutis menbro constituti…

[Some persons are slaves by birth, others become slaves subsequently; of the latter, some are enslaved by purchase, some by way of satisfaction for an offence…][290]

Another possibility is that the imposition of fines may have been less severe in practice than the normative texts prescribed in theory. The entry for Broughton, Huntingdonshire, in Domesday Book states that the sokemen 'had themselves' (*se habuisse*) the fines for fornication, bloodshed and robbery of up to 4d whilst larger fines went to the abbot (of Ramsey). It has been interpreted that these sokemen had bought the right to avoid paying fines below 4d by paying an initial lump sum to the abbot.[291] Chibnall has argued that fines in general represented a maximum rather than a fixed payment since such large sums would have 'ruined the peasantry in a very few years'.[292] She then draws attention to a passage in the *Leges Henrici Primi* which states:

Quidam villani et qui sunt eiusmodi leierwitam et blodwitam et huiusmodi minora forisfacta emerunt a dominis suis vel quoquo modo meruerunt, de suis et in su[o]; quorum fletgefeoht vel ouerseunessa est xxx denarii, cothseti xv denarii, servi vi denarii

[Some *villani* and persons who are of this lowly standing have purchased from their lords, or in some fashion have earned, the right to receive *legerwite* and *blodwite* and the fines for lesser offences of this kind, with respect to their own men and on their own land; in the case of *villani*

[290] *LHP* 76.3. Downer's translation in *Leges Henrici Primi*, ed and transl. L. J. Downer (Oxford, 1972), 239.
[291] GDB 204b (Huntingdonshire 6:3). See also Vinogradoff, *English Society*, 114.
[292] Chibnall, *Holy Trinity, Caen*, xlvii–xlviii.

the fine for *fletgefeoht* or *ouerseunesse* is thirty pence, for a *cottar* it is fifteen pence, and for a slave it is sixpence].[293]

The fact that the passage describes slaves paying low-level fines is suggestive evidence that coin might have penetrated down so far as the lowest rung of the social ladder. Nevertheless, a system of lump-sum payments for legal penalties coupled with extra fines when offences had been committed may have been a way of ensuring that the authorities continued to benefit from the profits of justice without completely impoverishing the peasantry.

## 3.6 Tolls

Tolls were charges levied on commercial activity, usually for the king's profit, or were payments made for access, such as using a stretch of waterway or entering a city. Collectively they could generate a significant amount of revenue. For example, Domesday Book reveals that Dover rendered £8 in 1066 and a much larger sum of £22 in 1086 which probably reflects Dover's location as a prominent coastal port as well as Norman avarice.[294] Domesday Book and the law code IV Æthelred, alongside evidence from several other documents, give breakdowns of individual toll payments. In many cases, coin must have been used to make the payments.

### 3.6.1 Tolls imposed on sales or goods

Table 22 lists the value of tolls imposed on sales or goods during the period 924–1135. The law code IV Æthelred contains information on tolls (variously recorded as *tolonei*,

[293] *LHP* 81.3. Downer's translation, *Leges Henrici Primi*, 255.
[294] GDB 2b (Dover P:9).

*telonei*, *teloneum*, *tol'*, *toll'*, *telon* and *rectitudinem*) paid in London, perhaps around the turn of the millennium (though see page 28n of this thesis for arguments that IV Æthelred may date from the mid-to-late twelfth century). Wormald argues that 'codicological chance and editorial caprice' led to the inclusion of the tolls with the rest of the code when in reality the two parts were separate.[295] Nevertheless, their survival illuminates a range of payments and the people liable to make them.

**Table 22: the value of tolls imposed on sales or goods, 924–1135**

| Toll | Value in d | Date | Place | Reference |
|---|---|---|---|---|
| Men from Rouen selling wine or blubber-fish in a large ship | 72d+ 5% fish | *c.* 1000 | Billingsgate, London | IV Atr 2.5 |
| Woman who sells cheese and butter a fortnight before Christmas | 1 | *c.* 1000 | Billingsgate, London | IV Atr 2.12 |
| Woman who sells cheese and butter a week before Christmas | 1 | *c.* 1000 | Billingsgate, London | IV Atr 2.12 |
| Sellers of hens from hampers | (1 hen) | *c.* 1000 | London | IV Atr 2.11 |
| Sellers of eggs from hampers | (5 eggs) | *c.* 1000 | London | IV Atr 2.11 |
| Market stall per week | 2 | *c.* 1066 | Winchester | Barlow, 'Winton Domesday', 38 |
| Market stall | 2 | 1106x13 | Felstead, Essex | Chibnall, *Holy Trinity, Caen*, 34 |
| Reeve's share of the sale of a man (4d from buyer, 4d from seller) | 8 | 1086 | Lewes, Sussex | GDB 26a (Sussex 12:1) |

[295] Wormald, *The Making of English Law*, i, 242 and 366.

| Toll | Value in d | Date | Place | Reference |
|---|---|---|---|---|
| Reeve's share of the sale of a horse (1d from buyer, 1d from seller) | 2 | 1086 | Lewes, Sussex | GDB 26a (Sussex 12:1) |
| Reeve's share of the sale of an ox (½d from buyer, ½d from seller) | 1 | 1086 | Lewes, Sussex | GDB 26a (Sussex 12:1) |
| Man with 4 oxen taking away salt in a cart | 4 | 1066 | Middlewich, Cheshire | GDB 262b (Cheshire S2:2) |
| Man with 2 oxen taking away salt in a cart | 2 | 1066 | Middlewich, Cheshire | GDB 262b (Cheshire S2:2) |
| Man from another hundred taking away a *summa* (of salt) | 2 | 1066 | Middlewich, Cheshire | GDB 262b (Cheshire S2:2) |
| Man from the same hundred taking away a *summa* (of salt) | ½ | 1066 | Middlewich, Cheshire | GDB 262b (Cheshire S2:2) |
| Man from another hundred taking away 8 man-loads of salt | 2 | 1066 | Middlewich, Cheshire | GDB 262b (Cheshire S2:4) |
| Man from the same hundred taking away 8 man-loads of salt | 1 | 1066 | Middlewich, Cheshire | GDB 262b (Cheshire S2:4) |
| Man from another shire with a cart of 2 or more oxen buying salt | 4 | 1066 | Northwich, Cheshire | GDB 268a (Cheshire S3:2) |
| Man from the same shire with a cart of 2 or more oxen buying salt | 2 | 1066 | Northwich, Cheshire | GDB 268a (Cheshire S3:2) |

| Toll | Value in d | Date | Place | Reference |
|---|---|---|---|---|
| Man from another shire taking away a *summa* (of salt) | 1 | 1066 | Northwich, Cheshire | GDB 268a (Cheshire S3:2) |
| Man from the same shire taking away a *summa* (of salt) | ¼[296] | 1066 | Northwich, Cheshire | GDB 268a (Cheshire S3:2) |
| Man from the hundred selling salt from a cart (each cart-load) | 1 | 1066 | Northwich, Cheshire | GDB 268a (Cheshire S3:2) |
| Man from the hundred selling salt by horseback (payment at Martinmas) | 1 | 1066 | Northwich, Cheshire | GDB 268a (Cheshire S3:2) |
| Purchase of a slave | 4 | *c.* 1075 | Bodmin, Cornwall | Pelteret, *Slavery*, xiv and 156 |
| Manumission of a slave | 4 | *c.* 1133 | Exeter, Devon | Pelteret, *Slavery*, xvi and 156 |

The toll (*rectitudinem*) paid by the men of Rouen bringing wine or blubber-fish is the highest in the table. IV Æthelred also states that men from Flanders, Ponthieu, Normandy, Huy, Liege, Nivelles and the empire were all liable to pay toll but it does not record its nature or value.[297] However, the merchants from the Empire had to pay 2 lengths of grey cloth and 1 length of brown, 10 pounds of pepper, 5 pairs of gloves and 2 saddle-kegs of vinegar if they were present in London at Christmas or Easter.[298] The size of these tolls may be proportionate to the size and value of cargoes being brought to London by continental merchants, which demonstrates the wealth of England's largest city.[299] The nature of the tolls-in-kind may further suggest that Londoners not

[296] Domesday Book actually states *minuta[m]* here, not ¼d. However, it is likely that this is what was meant, see P. Grierson, 'The Monetary System Under William I', in *Domesday Book: Studies*, 75–79 at 75.
[297] IV Atr 2.5–2.8.
[298] IV Atr 2.10.
[299] The total annual amount of toll levied on ships in London is not known for this period, but in 1130 the toll from ships at the much smaller port of Winchelsea raised £80. London probably raised a figure far in excess of this. PR 31 Henry I, 56.

only needed provisioning with vital foodstuffs (fish) but also with luxury food (pepper)– a sign that there was money to be spent by a growing class of urban elites.[300]

Toll was also collected from local inhabitants trading at the market. Women selling cheese and butter (*smeremangestrae*) were liable to pay *unum den[arium]* ('one penny') a fortnight before Christmas and another penny a week before. Since IV Æthelred also stipulates that the toll for traders selling hens and eggs were to be paid in those commodities then the *smeremangestrae* were probably paying their toll in coin. A similar payment is found in the thirteenth-century 'Consuetudinary of the City of Winchester' whereby every woman who sold suet or lard paid 1d at Easter as *smergable*.[301] This 'toll' therefore looks like a customary due, the payment of which persisted for several centuries.

Tolls from market stalls were also due to their landlords. The Winton Domesday records that, during the reign of Edward the Confessor, *duo eschamel* ('two stalls') on the king's road rendered 2d per week to the church of St. Peter *in macellis*.[302] Furthermore, in the early twelfth century the Abbey of Caen's manor of Felstead held a *forum ad consuetudinem…de unaquaque statione ii denar[ii]* ('market by custom [and levied a charge] of 2 pence on every market stall').[303] These values suggest that the stalls generated a reasonable amount of cash for the toll to be affordable.

300 Fleming, 'The New Wealth', 1–22.
301 E. Smirke, 'Ancient Consuetudinary of the City of Winchester', *The Archaeologcal Journal*, 9 (1852), 69–89 at 74 and 80.
302 Barlow, 'The Winton Domesday', 38.
303 Chibnall, *Holy Trinity, Caen*, 34.

Domesday Book describes the profits of transactions taken by the reeve (*praepositus*) of Lewes. Payment witnessing by reeves and other important men was demanded by every king who issued their own law codes, and was a practice designed to help prevent the theft of valuable items (see page 314).[304] It also allowed the state to take a cut of the higher valued transactions. Tolls of 8d on the slave, 2d on the horse and 1d on the ox would also have provided a significant regular income for the king and his officials. These tolls represented between 3 and 10% of the slave's value, between 1 and 2.5% of the horse's value and between 3 and 4% of the ox's value. It is conceivable that all these tolls were paid in coin because the transactions took place in a borough, the only lawful places to strike coin.

The tolls at the salt-wiches in 1066 were linked to the size of the vehicle brought to transport the salt and also with proximity to the industry. For example, men bringing carts with 2 or more oxen were liable to pay larger amounts of toll than those men transporting salt via horseback or on the backs of men, and a man from Middlewich buying a *summa* of salt paid just ½d toll compared to man from further afield who paid 2d. Furthermore, the value of tolls at the salt industry as a percentage of the value of the salt could be very high. For example, the value of a *summa* of salt was 1d yet the toll on a man who did not reside in Middewich and who wished to buy a *summa* of salt there was 2d, some 200% of value of the *summa*.[305]

Two toll-payments relate to transactions involving slaves. At Bodmin in *c.* 1075, 4d toll was paid during the purchase of a slave worth half a pound (120d), and at Exeter *c.* 1133

[304] II As 12; III Em 5; IV Edg 6; I Atr 3; II Cn 24. Screen, 'Anglo-Saxon Law and Numismatics', 158–59.
[305] GDB 179c (Herefordshire 1:4).

it appears that 4d toll was paid upon the freeing of a slave. Pelteret has suggested that 4d was a standardized payment across England for transactions involving slaves, and he draws attention to the 4d toll paid at Lewes by the buyers and sellers of men as further evidence to support this position.[306]

### 3.6.2 Tolls imposed on access

Table 23 lists the tolls imposed for the entry, exit and passage of boats in certain areas. Since the movement of sea-going and riverine vessels could be easily controlled in and out of ports and along rivers it is perhaps unsurprising that tolls were levied upon them. The tolls of entry into London specified in IV Æthelred appear to be varied according to the size of the vessel: the smaller ships paid ½d toll whilst the larger ships paid 1d. It is probable that coin was used to pay the toll in these instances because a *navis plena lignorum* ('ship with a cargo of planks') paid toll with *unum lignum* ('1 plank').

The toll for lying at Billingsgate for both small and large ships (*ceol vel hulcus*) was 4d. If merchants were remaining in London for business then perhaps the authorities thought that there was more profit to be taken from them. The toll on each *lesth* ('ship-load') leaving Chester was also 4d, though it is unclear whether this referred to the load of the entire ship or to certain groups of goods on each ship. The final toll in table 23 states that 2d was to be paid from each ascent and descent of boats (*navibus*) along the river which led to St. Cuthman's harbour (Steyning).[307] This toll was described during the course of a legal dispute over lands claimed by the Abbey of Fécamp which they alleged

[306] Pelteret, *Slavery in Early Medieval England*, 152–56.
[307] Original Latin taken from H. W. C. Davis (ed.), *Regesta Regum Anglo-Normannorum, 1066–1154*, ed. H. W. C. Davis, 4 vols. (Oxford, 1913), i, 127.

had been encroached upon by William of Briouze, and the fact that the dispute mentions such tolls speaks of their value in contributing to estate income.

**Table 23: value of tolls imposed on entry, exit, lying-in-port or on passage, 924–1135**

| Toll | Value in d | Date | Place | Reference |
|---|---|---|---|---|
| Small ship entering Billingsgate | ½ | *c.* 1000 | Billingsgate, London | IV Atr 2 |
| Larger ship with sails entering Billingsgate | 1 | *c.* 1000 | Billingsgate, London | IV Atr 2 |
| Ship with a cargo of planks entering Billingsgate | (1 plank) | *c.* 1000 | Billingsgate, London | IV Atr 2.2 |
| Small boat containing fish arriving at London Bridge | ½ | *c.* 1000 | London Bridge | IV Atr 2.4 |
| Larger ship arriving at London Bridge | 1 | *c.* 1000 | London Bridge | IV Atr 2.4 |
| Small or large ship lying at Billingsgate | 4 | *c.* 1000 | Billingsgate, London | IV Atr 2.1 |
| Each ship-load leaving Chester | 4 | 1066 | Chester | GDB 262c (Cheshire C:17) |
| Passage along a river by boats | 2 | *c.* 1086 | Steyning, Sussex | *EHD*, ii, no. 52 |

## 3.7 Conclusion

By way of conclusion, it is proposed to compare some of costs identified in this chapter and chapter 2 with estimates of peasant incomes. The purpose of doing so is to

consider whether the data collected from a wide range of sources accords with the proposition that peasants could afford to be engaged in the money economy.

None of the documentary sources I have examined provide a precise indication of the level of peasant incomes. However, this can be estimated, within a reasonable degree of confidence, on the assumption that lords extracted a proportion, not the totality of peasants' income in rent. In chapter 4, section 4.1 I consider a number of published national GDP estimates in 1086 based on evidence from Domesday Book. Snooks believes that lords extracted approximately 60% of national income (primarily generated by peasants in a rural capacity), while Mayhew favours a figure of between 25 and 33%. Walker also favours a figure of around 25%. How these estimates were calculated will also be covered in section 4.1, but I propose to use these percentage figures at a micro level to generate some income estimates for a selection of peasants mentioned in this chapter. None of the aforementioned percentages are decisive, so I shall provide estimates of peasant income from all three models in the following discussion. However, I prefer the lower percentages of Mayhew and Walker because Snooks' interpretation of the English economy in 1086 is unduly negative, especially with regards to treating almost all dependent peasants as producing barely enough to survive. Some dependent peasants must have been very poor, but this chapter alone has shown that many were not.

At Burton, Stevinulf held 2 bovates for 3 shillings (36d). If 36d represented 60% of Stevinulf's income then the total amount of wealth generated by him in a year from his 2 bovates may have been approximately 60d. However, if Stevinulf's rent represented

either 25% or 33% of his income then he would have generated between 108d and 144d from his 2 bovates per year. The bovate at Burton consisted of between 8 and 16¼ acres, and on the foregoing calculation each of Stevinulf's acres would have generated between 2d and 9d annually.

Other rents at Burton were lower. For example, Aluric the cook, Aluric the baker and Ulwin the mason held 2 bovates for 2 shillings, and Lepsi the baker, Alsi the cook, Ulsi the gardener and Godric the carpenter held 1 bovate for 12d. If these rents represent 60% of these peasants' incomes then they may have been generating 20d per bovate per year. If the rents represent between 25% and 33% of their incomes then these peasants may have been generating between 36d and 48d per bovate per year. On this basis, each of these acres would have generated between 1¼d and 6d annually.

At Shaftesbury, incomes may have been even higher. At Iwerne Minster, Dorset, Edric held 1 virgate for a rent of 60d. If this represented 60% of his income then his total income would have been approximately 100d annually, but if his rent represented between 25% and 33% of his income then Edric may have been generating between 180d and 240d of wealth from his virgate each year. The virgate in Dorset may have been between 10 and 16 acres, which suggests that each of Edric's acres generated between 6¼d and 24d in total per year. At Fontmell Magna, Dorset, Brihtric held 2 acres for a rent of 6d, which computes to 3d per acre. If the rent represents 60% of Brihtric's income then in total he may have been generating 5d per acre, but if his rent represented between 25% and 33% of the total output then Brihtric may have been generating between 9d and 12d annually from each of his acres.

These estimates should not be taken as definitive figures for peasant incomes since many factors could affect the amount of wealth generated from the land. These include the relative quality of the land and the terms on which the land was being held, as well as more unpredictable factors such as the effect that varying weather conditions could have on productivity.[308] Even so, I would still favour figures closer to the upper parameters of these estimates for the reasons cited above and in section 4.1 of this thesis. It should also be borne in mind that there were opportunities for peasants to generate income from casual employment beyond arable farming. There is little surviving evidence for this in the period under discussion but Faith has drawn attention to what appear to be hired labourers (*hyringmannum*) at Thorney Abbey in the tenth century and to *hyrmen* in the tenth- or eleventh-century treatise on estate management called the *Gerefa*.[309] Poole argues that because *cottars* had small plots they could hire themselves out as wage-earners for extra agrarian work or in a particular trade.[310] Dyer has suggested that the 100 *bordarii* of Coten End near Warwick who held garden plots in Domesday Book must have lived either via selling their fruit and vegetables in the town, from employment by townsmen, or indirectly as traders or craftsmen.[311] Campbell also suggests that such side-employments may have included herring fishing, though he admittedly uses thirteenth-century evidence to support this position.[312] If peasants were able to supplement the income generated from their plots from other employment then any income estimates based purely on land values may err on the low side.

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308 C. Dyer, 'Appendix 3: A note on calculation of GDP for 1086 and *c.* 1300', in *A Commercialising Economy*, 196–98 also draws attention to such problems.
309 Faith, *English Peasantry*, 75–76; Robertson, *Charters*, App. II, no. 9; Liebermann, *Gesetze*, i, 453–55.
310 A. L. Poole, *From Domesday Book to Magna Carta* (Oxford, 1955), 43.
311 Dyer, 'Hidden Trade', 149: GDB 238b (Warwickshire 1:6).
312 Campbell, 'Domesday Herrings', 15.

Whatever the case, estimates of peasant incomes drawn from estate surveys and Domesday Book accord with one another, and demonstrate that many peasants generated incomes equivalent to dozens of pence per year. This remains true even after the costs of taxation and other compulsory payments are taken into account. Consider, for example, the case of Aluric the Cook, named in the Burton surveys and who held 2 bovates for 12d each.[313] If the combined 24d of rent represented a 25% wealth-extraction percentage by his lord then Aluric's income would have been approximately 96d per year. If it represented 33% then Aluric's income would have been 72d (and 40d using Snooks' model). If we subtract from Aluric's income the 24d of rent as well as a notional 7d for fold, 1d for cartage service, 2d of churchscot, 1d of tithe, 1d of plough alms, 1 Peter's penny and 2d of geld, this totals 39d of compulsory payments. If Aluric's income were 72d then this would still leave him with 33-pence worth of disposable income. This could have been used for purchasing, for example, a couple of sheep worth 5d each or 1 pig worth 10d, extra food for Aluric's family, and perhaps a new harrow worth 16d. Alternatively, some of this income could have been converted into cash for savings. Furthermore, if Aluric's income were 96d then he would have had a much larger 57d-worth of disposal income. Both of these estimates suggest that it was feasible for peasants to be involved in the money economy to a significant extent (though much less so under Snooks' model where just 1d remains from the income estimate after subtraction of compulsory payments).

This chapter has argued that coins were used routinely to pay for services and dues in both rural and urban contexts throughout the period in question. Lords extracted rents from peasants in labour, kind and cash, and the fact that the estate surveys from this

[313] See pages 93–94.

period differentiate these forms of rent in a detailed way suggests that where payments in coin were stipulated then this was the means of exchange being demanded. The fact that church dues and payments to the state are represented as payments in cash, labour and kind, and are often commutable between these forms, similarly suggests that such payments were made in coin. These cash payments were expected of peasants representing a wide spectrum of rural society. Not only were the free men and sokemen liable to pay cash renders to their lords, but also the *ceorls*, *geburs* and *kotsetlas* of Anglo-Saxon England and the *villani*, *bordarii* and *cottars* of Anglo-Norman England. We have little direct evidence of how peasants physically came into contact with the money economy. However, it is a reasonable presumption that they did so by selling agrarian products for cash at markets, often though not always located in towns.

It is plain that towns and money went together. Towns were the only legal places to strike coin which is one indication of this connection, but evidence from Domesday Book and the Winton Survey shows almost beyond doubt that urban property was rented for cash. Tolls were also regularly collected in cash – a point reinforced by the fact that sometimes tolls were specifically demanded in kind. Furthermore, the evidence suggests that money circulated at relatively low levels of society: among people who brewed beer, sold dairy products, butchered meat, carted salt, made horseshoes and so on – as well as much wealthier individuals, such as warriors in the king's fyrd, and the lithsmen of the king's fleet.

Although the data on small-scale payments is drawn from a wide variety of sources – written at different times, in different parts of the country, under a range of different

circumstances – they are in broad accordance with one another. For instance, a day of peasant labour commuted for ½d or less makes logical sense when set against a day's pay for a warrior at 3½ to 4d. The values of payments and services together with estimates of peasant incomes also make sense of the values of objects – peasants could afford the things they needed to subsist: sheep, horses, oxen, rural equipment and perhaps bulk items of food. Such items could have been, and in many cases probably were, obtained via barter, and the documentary evidence only demonstrates peasant use of coin in terms of renders to lords and to the state. It remains to consider whether the numismatic evidence supports these contentions.

**Table 24: the values of payments and services which could be paid for with 1 penny, 924–1135**

| *Rural rents and dues* | *Urban rents and dues* |
|---|---|
| Between 2 and 9 days of commuted labour | ¼ to 1/16 burgage tenure payment |
| Between ½ and 2 acres rent | ¼ to 1/10 brewgable payment |
| 1 wood-carting service | ½ to 1/3 horse transport across the Channel |
| ½ fish- or salt-carting service | ¼ hire of horses from each messuage in Hereford |
| *c.* 1 pannage/herbage payment per animal | 1 weekly butcher payment in Winchester |
| 1/7 fold payment | 1 payment from smiths in Hereford |
| 1/12 August work commutation | 1 frithpenny? |
| 1 chevage payment | |
| *c.* 2 acres of *lignagium* | |
| ½ woodright payment | |
| 1/13 *heusire* payment | |

| *Church dues* | *Payments to the king and to the state* |
|---|---|
| 1/6 to 1/8 tithe per hide | Half to whole *avera* commutation per virgate |
| Partial acquittance of tithe per person | ¼ to 1/18 escort service payment |
| 1/5 to 1/12 churchscot per hide | ½ to 1/9 wardpenny commutation |
| ¼ churchscot per sokeman | ¼ daily wage for warrior in fyrd |
| ½ to whole churchschot payment per *villanus* | *c.* ¼ daily wage for mercenary soldier |
| 1 soulscot payment per person | *c.* 1/5 daily wage for mercenary steersman |
| 1 plough-alms payment per hide | *c.* 1 hidage payment at Bury St. Edmunds |
| 1 annual Peter's Pence payment per free man | |

| *Fines* | *Tolls* |
|---|---|
| up to 1/1,200 breach of the peace | 1/72 on international merchant |
| up to 1/1,920 blocking a highway or river | 1 toll on female dairy-produce seller in London |
| up to 1/6,000 murder | ½ market-stall toll per week |
| up to 1/1,200 theft | 1 payment to reeve after sale of ox |
| up to 1/1,200 violating protection of church | ¼ toll on man with 4 oxen carting away salt |
| 1/600 fine for non-payment of churchscot | ½ toll on man with 2 oxen carting away salt |
| 1/150 non-payment of plough-alms for thegn | 1 toll on each cart-load of salt sold in the hundred |
| 1/30 non-payment of plough alms for householder | 1 toll annually upon trader selling salt via horseback |
| 1/600 failure to perform the 3 common burdens | ¼ toll for purchasing a slave |
| 1/480 to 1/1,200 failure to perform military service | 1 toll on large ship entering Billingsgate |
| 1/480 to 1/1,200 withholding toll | 1 toll on large ship arriving at London Bridge |
| 1/48 to 1/150 Sunday trading | ¼ toll on large or small ship lying at Billingsgate |
| 1/48 brewing bad beer | ¼ toll on each ship-load leaving Chester |
| 1/24 overloading cart or horse to breaking point | ½ toll on boats travelling along river near Steyning |

# 4. The volume of mint output and the size of the currency in relation to the size of the economy

This chapter seeks to establish, within broad parameters, the volume of mint output and the size of the currency between 924 and 1135. This will provide context to the documentary evidence relating to the use of money in chapters 1, 2 and 3 and also to the discussions of coin distribution patterns in chapters 5 and 6. Was there enough coin in circulation to match the cash transactions visible in the documentary evidence, and how hard did the currency have to work for people to gain access to it? It is possible to address this question by comparing estimates of the size of the currency with estimates of GDP based on Domesday Book. The GDP estimates will be discussed in section 4.1, mint-output estimates in section 4.2 and currency-size estimates in section 4.3. I shall then analyse the GDP and currency-size estimates together in the conclusion and shall set them into further context by comparison with similar estimates for the thirteenth century.

## 4.1 Quantifying the value of the English economy: GDP estimates based on Domesday Book

There exist several estimates of the value of the English economy based on Domesday Book. The value of an economy is best represented by Gross Domestic Product (GDP), which is an estimate of the value of all goods and services produced and supplied in a given year. Domesday Book supplies valuations, *valets* and *reddits* expressed in monetary terms, for almost every parcel of property in England (see pages 111–15). These values usually represent the value of surplus wealth extracted by lords from the

peasantry, not the entirety of wealth generated by a specific parcel of property.[1] Thus, all estimates of Domesday England's GDP start with valuations of the seigniorial sector of the economy and add to it an approximation of the size of the non-seigniorial, or peasant, sector of the economy.

The lowest of these estimates was generated by Graeme Snooks who gives a GDP value for 1086 of £136,621.[2] Snooks starts with Darby's £71,573 sum of the total of the seigniorial *valets* and *reddits*.[3] He argues that this value also included the incomes of free peasants who owed some labour or dues to their lords. He claims that since the prime goal of landlords was to extract as much wealth from their estates as possible, the *valets* and *reddits* represent 'net manorial income'; that is demesne output minus the costs of production and including other jurisdictional and seigniorial income. To maximise this demesne output, Snooks argues that the 'unfree' (dependent) peasants survived at minimum consumption levels.[4] Snooks values the 'subsistence sector' of the 'unfree' peasants at £51,306, which means that almost 60% of peasant income was extracted by lords.[5] Snooks adds a figure of £3,034 for the four northern counties of Cumberland, Westmorland, Northumberland and Durham which Domesday Book omits, and an estimated figure of £10,708 for burghal income.

[1] Bridbury, 'Domesday Book', 290–95; Bridbury, *English Economy*, 92–96.
[2] Snooks, 'Dynamic Role', 28–35.
[3] Darby, *Domesday England*, 359.
[4] Snooks, 'Dynamic Role', 28.
[5] Net manorial income of £71,573 + subsistence sector of £51,306=£122,879. £71,573/£122,879 = 58.2%.

Mayhew has criticised this analysis.[6] He states that whilst the broad approach of Snooks may be reasonable, his specific assumption that all 'unfree' peasants were producing just enough to survive is flawed. He observes that whilst some Domesday peasants held only several acres or garden plots, some held tenements which were much larger in size. Furthermore, Mayhew argues that Snooks' estimates for the comital and burghal omissions in Domesday Book are too low since there is much that Domesday Book omits in the parts of England that it does survey. Mayhew also disputes Snooks' claim that the values of the lands of free men were included in the *valets* and *reddits*.

Mayhew has provided two estimates of GDP in 1086: £300,000 and £400,000.[7] He begins with Darby's *valet* and *reddit* total of £71,573. He states that this total 'gives an indication of annual manorial income enjoyed by the lord, whether in the form of rent, farms, and feudal dues, and/or demesne output'.[8] Mayhew then rounds this figure up to £100,000 to account for the burghal and comital omissions in Domesday Book. Mayhew then suggests that this £100,000 may represent the extraction of one third of peasant incomes. This figure is derived from Titow's estimate of the overall percentage of compulsory payments extracted by lords from peasants based on estate-survey evidence from the thirteenth century.[9] In this instance, therefore, GDP was approximately £300,000. Mayhew's GDP estimate of £400,000 was again reached using Titow's calculations, whose broadest parameters suggested that thirteenth-century lords could have extracted between 25 and 50 per cent of peasant incomes.[10] If peasants in

[6] Mayhew, 'Coinage and Money', 75.
[7] Mayhew, 'Modelling Medieval Monetisation', 60–62 and Appendix 2.
[8] Ibid., 60.
[9] J. Z. Titow, *English Rural Society, 1200–1350* (London, 1969), 90.
[10] Ibid., 81.

the late eleventh century enjoyed a labour-scarcity value, £100,000 may have represented the extraction of a quarter of peasant incomes.[11]

In a forthcoming article, Dr. James Walker engages with the debate on the size of England's GDP in 1086.[12] His project has been facilitated by the computerisation of the Phillimore translation of Domesday Book, carried out by a team led by Dr. John Palmer at the University of Hull (the Domesday Explorer project).[13] Palmer's data has allowed Walker to re-examine the economic evidence provided by Domesday Book to value each separate part of the seigniorial and non-seigniorial economies.

Walker analyses the arable value of the seigniorial economy using Palmer's database and generates a figure of £75,065, which is close to Darby's £71,573 total. He also calculates the value of non-working animals (those which were not active in ploughing such as sheep, pigs, goats and cows) at £12,639 as well as the value of the non-arable sections of the seigniorial economy, namely mills, fisheries, salt houses, urban properties and other miscellaneous payments (£6,887). Walker's total value of the seigniorial sector is therefore £94,591. He then estimates the size of the non-seigniorial, or peasant, sector of the economy. For arable, he estimates the amount generated by peasant ploughs used on the lord's demesne (£169,005) and the output generated by ploughs operated solely on peasant lands (£61,665). He estimates the value of non-seigniorial non-working livestock at (£49,517) and the non-arable sector of the peasant economy at £8,390. Walker's value of the peasant sector is therefore £288,577. This means that

[11] Mayhew, 'Coinage and Money', 76.
[12] Walker, 'National Income in Domesday England', (forthcoming).
[13] Palmer's datasets can be found at https://hydra.hull.ac.uk/

approximately 75% of agrarian economic output remained outside seigniorial hands.[14] Walker then estimates the value of urban property at £31,249. Finally, 'counterfactual' elements are added to his model. These include unutilised (or unvalued) ploughs (£16,728), values relating to the counties of Northern England (£18,197), and a climate change value of £51,594 to offset the impact on economic output of poor weather in the mid-1080s. Walker's total value of the Domesday economy therefore totals £500,936.

This study rests on a number of assumptions and also uses data drawn from other time periods. However, it is the most comprehensive attempt yet to interpret the economic data of Domesday Book, and the final figure of £500,936 is the largest estimate of GDP in 1086 to date. All four estimates of GDP will be revisited in the conclusion to this chapter, which compares them with estimates of the size of the currency. As stated in the conclusion to chapter 3, I prefer the GDP estimates of Mayhew and Walker over that of Snooks, principally because it is clear that dependent peasants had access to differing levels of resources, thus many produced more than was necessary to survive (see chapter 3, section 3.1). This factor alone would probably generate more economic activity than it would in a world where lords extracted almost all surplus wealth from their tenants, as Snooks would argue. I would favour a GDP estimate of around £400,000–£450,000: the lower figure representing the larger of Mayhew's two GDP estimates, and the higher figure representing Walker's GDP estimate before the climate-change figure is added (which I believe to be fairly speculative). The extraction of 25% of peasant wealth by lords appears to be a reasonable calculation, whether derived from the figures provided by Mayhew from thirteenth-century data or from Walker's most

[14] Figure calculated by dividing the peasant sector value by the sum of the peasant and seigniorial sector values, so: £288,577 / (£288,577 + £94,591) = 75.3%.

recent calculations using data from Domesday Book. This gives justification to Mayhew's £400,000 GDP estimate. Walker's approach to calculating GDP is grounded in a variety of practical methodologies (even where the data for 1086 is lacking), which is why £450,000 is my preferred upper limit for GDP. These figures do remain estimates, however, so it is possible that the real value of GDP may have existed above or below my preferred parameters (though probably not as low as Snooks' estimate). Nevertheless, given the arguments made in the first half of this thesis for the regular usage of coin in the economy, there is plenty of scope for considering currency circulation at all levels of society, especially the lower levels.

## 4.2 The Volume of Mint Output

### 4.2.1 Historiographical background

The earliest estimates of mint output during the 1960s focussed on particular coin types (see table 25). Metcalf's estimates for *Reform* and *Long Cross* used data from large hoards and coin samples.[15] Sawyer's estimate for *Long Cross* was based upon obverse-die data from the preliminary results of the Lincoln mint study.[16] Grierson's estimate for *Long Cross* was based upon the geld and tribute figures given in the *Anglo-Saxon Chronicle*, and Dolley's estimate for *Paxs* was reached using data relating to the number of moneyers in the type.[17]

[15] D. M. Metcalf, 'How large was the Anglo-Saxon Currency', *EcHR*, 18 (1965), 475–82 at 480–81.
[16] Sawyer, 'The Wealth of England', 150–53.
[17] P. Grierson, 'The Volume of the Anglo-Saxon Coinage', *EcHR*, 20 (1967), 153–60 at 159–60; R. H. M. Dolley, *The Norman Conquest and the English Coinage* (London, 1966), 14.

**Table 25: the earliest estimates of mint output in the period *c.* 973–1086**

| Author | Type | Circulation Period | Output in coins | Output in £ |
|---|---|---|---|---|
| Metcalf | *Reform* | *c.* 973–979 | 5–10 million | £20,000–£40,000 |
| Metcalf | *Long Cross* | *c.* 997–1003 | 12–15 million | £50,000–£62,500 |
| Sawyer | *Long Cross* | *c.* 997–1003 | ≤ 30 million | ≤ £120,000 |
| Grierson | *Long Cross* | *c.* 997–1003 | 15–20 million | £60,000–£80,000 |
| Dolley | *Paxs* | *c.* 1083–6 | 6–9 million | £25,000–£37,500 |

The various approaches to calculating mint output yield quite different estimates which can be seen most clearly in the *Long Cross* type. The process of estimating mint output became more refined (though not without its difficulties) when Mossop's study of the Lincoln mint and Lyon's die-estimating formulae were published in 1970.[18] This allowed Metcalf to publish mint output estimates for every type between *c.* 973 and 1066.[19] These, and subsequent estimates, shall be considered in more detail below in comparison with my own.

### 4.2.2 The first principles of calculating mint output

Documentary evidence for mint output, such as the records of silver purchases made by the mints in the thirteenth century, does not exist for any earlier period so we must estimate the output using the surviving numismatic evidence alone. The first principles of estimating the volume of mint output are as follows:

[18] H. R. Mossop, *The Lincoln Mint, c. 870–1279* (Newcastle, 1970); C. S. S. Lyon, 'Analysis of the Material', in Mossop, *The Lincoln Mint*, 11–19 and table 4 in the appendix.
[19] D. M. Metcalf, 'The Ranking of the Boroughs: Numismatic Evidence from the Reign of Æthelred II', in D. Hill (ed.), *Ethelred the Unready: Papers from the Millenary Conference*, BAR British Series, 59 (Oxford, 1978), 159–212 at 177–79; D. M. Metcalf, 'Continuity and Change in English Monetary History, *c.* 973–1086', *BNJ*, 51 (1981), ii, 51–90 at 54 and 87.

i. We have a large number of coins found singly, found in hoards in Britain and found in hoards in Scandinavia.

ii. Once a large enough sample of these coins has been assembled, we may make the assumption (with reservations) that the sample is *representative* of the original total of coins produced from the mints.

iii. From here, the crucial step is to estimate from the corpus the original number of dies used to strike each type. To do this we need to study the coins from a particular mint and calculate, for each type, how many coins were die-linked, that is to say, struck from the same die.

iv. This die-linkage data provides a statistical basis for estimating how many of the 'original' dies are represented in known collections, and how many more are likely to have been used. For example, if 95 coins from a sample of 100 were struck from a small number of dies, it is unlikely that there were many more original dies than are currently known. However, if every coin in the sample was struck by a different die then it is likely that there were many more original dies than are currently known.

v. Statistical algorithms exist which produce estimates of the total number of original dies used at a particular mint. The variables required for these methods are: (a) the number of known coins from a particular type and mint and (b) the number of dies represented by a single coin in the mint study. The latter helps to estimate the number of dies *not* represented in the study, and thus the total number of dies originally used from that type.

vi. The total number of dies used nationally for a type needs to be calculated from the estimated number of dies used from a particular mint. To do this we need to establish the percentage of coins in the sample which came from the aforementioned mint. For example, if the estimated total number of original dies

for a particular type and mint is 200, and the percentage of coins from that mint in the sample is 10%, then we can estimate that 2,000 dies were originally used to strike the type nationally.[20]

vii. The method outlined above is fairly rudimentary. However, more sophisticated adjustments can be made to assign confidence levels to the results and also to account for certain flaws in the process.

viii. The final step in estimating the volume of mint output for a particular type is to multiply the estimated number of national dies by the average number of coins struck from a die before they wore out. For example, if 2,000 dies were used nationally to strike a particular type, and each die struck on average 10,000 coins, then the estimated mint output would be 2,000 dies x 10,000 coins = 20,000,000 pence or £83,333.

We may now apply these principles to existing datasets. In what follows, I firstly describe the available datasets and the problem of how representative they are. I then summarize the three major mint studies which exist; examine the evolution of different die-estimate methods; and explain why the current method is the most effective. I then lay out the die-estimate data which the current method produces from the datasets and mint studies and analyse the results and trends; and finally translate the die-estimate results into mint-output figures by applying average-output-per-die values to them.

[20] Though this method of calculation will be used in the current chapter, it should be noted that a much more effective method of estimation would be to conduct die studies of all surviving mints and coin types. While this would be too impractical and time-consuming to undertake in this thesis, there exist a number of coin types which have had die studies performed on them, most notably H. Pagan, 'The *Pacx* type of Edward the Confessor', *BNJ*, 81 (2011), 9–106; H. Pagan, 'The coinage of Harold II', in *Studies Late-Anglo-Saxon Coinage*, 177–205; and M. Allen, 'Henry I type 14', *BNJ*, 79 (2009), 72–171. I shall use the recently published mint studies of Winchester and York alongside the older Lincoln mint study to compare die estimates for particular coin types. Discussion of methodology and results follows below.

### 4.2.3 The large hoard-based datasets

Three datasets currently exist which are sufficiently large to constitute a representative sample, and this provides a basis for estimating the volume of mint output from *c.* 973 to 1066. The first dataset was assembled by Bertil Petersson in 1969 and contains 34,707 coins.[21] It comprises material from collections in the United Kingdom, Ireland, Norway and Finland, but mostly from the Royal Cabinets of Coins and Medals of Copenhagen and Stockholm.[22] A second, updated dataset was published by Petersson in 1990 and contains 44,350 coins. It is similarly drawn from a wide range of national collections.[23] The third dataset was compiled by Michael Metcalf in 1981 and consists of the Copenhagen and Stockholm material described above, comprising 16,971 coins.[24] Most of the coins in these datasets are from provenanced hoards, though there will also be unprovenanced coins and a small percentage of single finds in the totals. It should be noted that material from the Scandinavian sources begins to decrease rapidly from the late 1040s, which makes estimating the volume of mint output more hazardous beyond the *Small Flan* type (conventionally dated to 1048–50).

To be able to use these datasets with confidence, we need to assume that they are representative. Random samples should give a more representative picture of the currency in circulation and thus a more realistic impression of the number and variety of dies used to strike a coinage. Samples that are not randomly compiled could skew the

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[21] H. B. A. Petersson, *Anglo-Saxon Currency: King Edgar's Reform to the Norman Conquest* (Lund, 1969).
[22] G. Galster, *Royal Collection of Coins and Medals, National Museum, Copenhagen*, *SCBI*, 7 (1966); B. E. Hildebrand, *Anglosachsiska mynt i Svenska Kongliga Myntkabinettet funna i Sveriges jord*, 2nd ed. (Stockholm, 1881).
[23] H. B. A. Petersson, 'Coins and Weights: Late Anglo-Saxon Pennies and Mints *c.* 973–1066', in *Studies in Late-Anglo-Saxon Coinage*, 207–433.
[24] Metcalf, 'Continuity and Change', ii, 68–73. This figure relates to the period *c.* 973–1066. The dataset also includes coins up to and including the *Paxs* type of the mid-1080s, so the dataset contains 17,030 coins in total.

evidence in favour of certain mints and thus onto a high number of die-duplicate coins from those mints. This would lead to an unrepresentative picture of mint output.

Unfortunately, there are difficulties with the composition of all three datasets. Many Anglo-Saxon coins have been found in Scandinavia because of Viking interactions with England from the late-tenth to the mid-eleventh centuries, and these could have compromised the randomness of the surviving source material. It is reasonable to assume that much of the tribute payment from the English to the Danes between 991 and 1018 was taken across the North Sea to Denmark and other parts of Scandinavia.[25] If the *Chronicle* figures can be believed then £219,500 was paid throughout this period (see table 26). It has been argued that for *Quatrefoil* at least (conventionally dated to 1017–23) the surviving material in Scandinavia might reflect emergency coin production for the £82,500 geld of 1018 rather than the regular currency in circulation in England.[26]

**Table 26: tribute and heregeld payments described in the Anglo-Saxon Chronicle[27]**

| Year | Tribute in £ | *Heregeld* in £ |
|---|---|---|
| 991 | 10,000 | |
| 994 | 16,000 | |
| 1002 | 24,000 | |
| 1007 | 36,000 | |
| 1009 | 3,000 (from East Kent) | |
| 1012 | 48,000 | |
| 1014 | | 21,000 |
| 1018 | 72,500 (plus 10,500 from London) | |
| 1041 | | 21,099 and 11,048 |

[25] Lawson, 'Collection', 721–38, and debate with J. Gillingham in *EHR,* 104 (1989), 373–406, and 105 (1990), 939−61.
[26] Metcalf, 'Continuity and Change', ii, 54–55; *ASC* C, *s. a.* 1018.
[27] Lawson, 'Collection', 736.

A second form of interaction was trade. For instance, it has been suggested that furs were one Scandinavian export to England which the Danes exchanged for coin.[28] However, trade with Scandinavia presumably focussed on northern and eastern England which may mean that coins from the large mints in these regions, such as York and Lincoln, are over-represented in the sample. Allen has noted the implications of non-random samples by stating that 'if a mint is over-represented in the data, extrapolation of its die estimates to figures for all mints will under-estimate the numbers of dies from other mints, and the underrepresentation of a mint will have the opposite effect'.[29]

Nevertheless, the datasets remain our only means to build estimates of mint output and some of the foregoing criticisms can be countered. A further form of monetary interaction between England and Scandinavia was caused by the levying of the *heregeld*. Table 26 shows that this tax could raise substantial sums of cash, some of which may have been taken back to Scandinavia by the mercenaries at the end of their terms of service. However, much of the *heregeld* may have been spent by these mercenaries in England whilst they were serving. The *heregeld* was raised through regular national taxation so it may have been more representative of the currency in circulation than emergency tributes.

A further check on the representativeness of the three datasets can be made by comparing them to the English single find data. Single finds best represent accidental losses in the economy and can be considered the most representative sample of the

[28] D. M. Metcalf, 'Inflows of Anglo-Saxon and German Coins into the Northern Lands *c.* 997–1024: Discerning the Patterns', in G. Williams and B. Cook (eds.), *Coinage and History in the North Sea World, c. AD 500–1250* (Brill, 2006), 349–88 at 382.
[29] Allen, *Mints and Money*, 298.

currency in circulation (though see pages 237–38). My current sample of single finds contains 1,187 mint-attributable specimens for the period *c.* 973–1066.[30] The size of the dataset is too small to use as a basis for mint-output yet it is sufficiently large to compare meaningfully with the three larger datasets. In table 27 I have ranked the ten most productive mints from the single finds and have given those figures as percentages of the total number of coins in the sample. I have then compared these totals to those from the same mints from the three larger datasets. Close convergence between these figures will allow us to lend more credence to the larger datasets in terms of their representativeness of the currency in circulation.

**Table 27: comparison of mint representation between single finds and the large hoard-based datasets, *c.* 973–1066**

| Mint | Single Finds[31] | | Petersson 1969[32] | | Metcalf 1981[33] | | Petersson 1990[34] | |
|---|---|---|---|---|---|---|---|---|
| | *No. of coins* | *%* | *No. of coins* | *%* | *No. of coins* | *%* | *No. of coins* | *%* |
| London | 269 | 22.7 | 8,465 | 24.4 | 4,176 | 24.6 | 10,023 | 22.6 |
| Lincoln | 162 | 13.6 | 3,149 | 9.1 | 1,697 | 10.0 | 4,342 | 9.8 |
| York | 148 | 12.5 | 3,360 | 9.7 | 1,643 | 9.7 | 4,805 | 10.8 |
| Stamford | 65 | 5.5 | - | - | 677 | 4.0 | 1,712 | 3.9 |
| Thetford | 57 | 4.8 | - | - | 540 | 3.2 | 1,485 | 3.3 |
| Winchester | 55 | 4.6 | 2,369[35] | 6.8 | 1,016 | 6.0 | 2,932 | 6.6 |
| Canterbury | 48 | 4.0 | - | - | 700 | 4.1 | 1,265 | 2.9 |
| Norwich | 31 | 2.6 | - | - | 405 | 2.4 | 1,083 | 2.4 |
| Chester | 23 | 1.9 | - | - | 503 | 3.0 | 1,550 | 3.5 |
| Cambridge | 22 | 1.9 | - | - | 261 | 1.5 | 679 | 1.5 |
| Totals | 880 | 74.1 | 17,343 | 50.0 | 11,618 | 68.5 | 29,876 | 67.3 |

[30] http://www-cm.fitzmuseum.cam.ac.uk/emc/ and www.finds.org.uk/. For a discussion of how this data was collected, see chapter 6.
[31] Totals come from data collected from the EMC and PAS databases and from the British Museum Card Index. Single find data collection for this thesis ceased on 3rd February 2012.
[32] Petersson, *Anglo-Saxon Currency*, 240–41. Petersson classified his output data into the four individual mints displayed and also into minting regions such as 'East Anglia' and 'West Mercia' which cover groups of mints in those areas. As such I could not provide individual mint data for the remaining six mints in the table.
[33] Metcalf, 'Continuity and Change', ii, 68–73.
[34] Petersson, 'Coins and Weights', 213–14.
[35] Petersson groups Winchester with 'the few coins that were produced at Southampton' due to Southampton/Winchester die links, *Anglo-Saxon Currency*, 89.

Whilst there are small variations in the percentages between the datasets, none of them differ by more than 4.5%. Furthermore, the bias towards the eastern mints in the single-find data appears to contradict previous assumptions that these mints are over-represented in the hoard-based datasets because of an eastern bias in Scandinavian hoards. The single-find percentages tend to be larger than those in the hoard-based datasets, especially for Lincoln, York, Stamford and Thetford. This may be down to metal-detectoring biases since the east of England has been traditionally more heavily scanned than the south and the west (see pages 239–41). The main exceptions to the pattern are Winchester and Chester. For Winchester this may be down to centrally-administered tribute payments reaching Scandinavia. Metcalf has shown that the two most numerous coin types in his dataset for Winchester are *Last Small Cross* and *Quatrefoil* (conventionally dated to 1009–1023) which circulated during the heaviest tribute period.[36] The single-find figure for Chester may have been affected by Scandinavian trade with the city, which was particularly strong throughout the tenth century and remained live during the eleventh.[37] The aforementioned metal-detectoring biases may also play a role in the single-find statistics for both mints. Whilst there are inevitably biases of certain mints in certain types, the overall representativeness of the numismatic datasets appears to be reasonable.

### 4.2.4 The mint studies

There are three major mint studies available, all of which have taken years of effort to compile. Lincoln was the first completed and was published in 1970 by Henry Mossop.[38] This study accounted for almost all of the surviving coins produced at the

[36] Metcalf, 'Continuity and Change', ii, 72–73.
[37] Astill, 'General Survey' in *Cambridge Urban History*, 37–38.
[38] Mossop, *The Lincoln Mint*.

mint from *c.* 975–*c.* 1250 and records, amongst other things, instances where coins were struck by the same dies. Stewart Lyon helpfully analysed Mossop's data by recording the frequencies and combinations of obverse and reverse dies appearing on the coins in the sample.[39] More recently, Yvonne Harvey has published a study of the Winchester mint which covers coinage produced there from *c.* 927 to the end of the *Short Cross* issue in 1279.[40] The third study is of the York mint, prepared by William Lean but not yet fully published. However, it features in Lyon's analysis of the Winchester mint for comparative purposes.[41]

### 4.2.5 The die-estimating methods

Statistical methods can be applied to generate estimates for the total number of dies used to strike particular types at particular mints. Almost all analysis involving data on die-links relates to reverse dies because they carry the name of the moneyer. In theory, every moneyer *had* to use the same reverse die because coins had to be traceable in case of fraud or debasement. Furthermore, since the reverse was the upper of the two dies in the coin-striking process it would have received the full force of the hammer blow and would have become worn out more quickly than obverse dies. Estimates generated via obverse dies may therefore be artificially inflated.[42] Until recently, the preferred die-estimating method was that developed by Lyon.[43] It relies on the assumption that the survival of every coin in the mint study is random. If so, the proportion of die-linked coins is probably a good indicator of the proportion of the total mint output from the known dies represented in the mint study. It is probable that not every die used to strike

[39] Lyon, 'Analysis of the Material', 11–19 and table 4 in the appendix.
[40] Y. Harvey, 'Catalogue and Die-Analysis of the Winchester Mint-Signed Coins', in M. Biddle (ed.), *The Winchester Mint: and Coins and Related Finds from the Excavations of 1961–71* (Oxford, 2012), 86–577.
[41] S. Lyon, 'Minting in Winchester: an Introduction and Statistical Analysis', in Biddle, *The Winchester Mint*, 3–55 in table 15 on pages 46–49.
[42] Allen, *Mints and Money*, 322.
[43] Lyon, 'Analysis of the Material', 11–19 and table 4 in the appendix.

a type is represented in the mint study, so Lyon developed a formula to estimate the number of these unknown dies based on the number of dies represented by just one coin in the mint study (also called singletons). By adding together the number of known dies to the estimate of unknown dies, an estimate for the total number of dies used for a particular type at a particular mint can be generated.

However, Esty has developed a different method for estimating die numbers.[44] This deploys new formulae which take the coverage of the mint study into account. The coverage reflects the probability that the next coin discovered from a given type will be from a die already represented in the study. Coverage takes a value between 0 and 1 and the closer to 0, the weaker the study. Secondly, Esty's formulae are designed to tolerate variability in the output of dies, that is to say the formulae work for dies striking at full capacity and for dies striking relatively few coins. Thirdly, Esty's method not only generates a single-figure estimate for the number of dies used to strike a type (called a point estimate), it also gives 95% confidence limits either side of the point estimate. This effectively creates a range within which the true number of dies used would have fallen. If we want to extrapolate national die-estimates for the *First Hand* type using the Lincoln data we need to know the following variables and use the following formulae:

$C_{est}$ = the coverage of the mint study

$D_{est}$ = the estimated total number of dies used to strike a particular type from a particular mint

$n$ = 46 (the number of *First Hand* coins from the Lincoln mint)

$d$ = 33 (the number of known reverse dies used to strike the *First Hand* type from the Lincoln mint)

[44] W. Esty, 'How to estimate the original number of dies and the coverage of a sample', *NC*, 166 (2006), 359–64.

$d_1$ = 26 (the number of reverse dies represented by a single coin of the *First Hand* type from the Lincoln mint)

$$C_{est} = 1 - \frac{d_1}{n}$$

$C_{est}$ = 1 – (26/46) = 0.435

$$D_{est} = \left(\frac{d}{C_{est}}\right)\left(1 + \frac{d_1}{2d}\right)$$

$D_{est}$ = (33/0.435)(1 + 26/(2*33)) = 106

For the confidence limits

$$D_{est} + \left(\frac{2D_{est}}{n}\right)^2 \pm \left(\frac{2D_{est}}{n}\right)\sqrt{2D_{est}}$$

106 + ((2*106)/46)$^2$ ± ((2*106)/46) * √(2*106) = 60 to 194

So far the Lincoln *First Hand* point estimate is 106 with 95% confidence limits of 60 to 194. To extrapolate the national total we need to use the following formula:

$t = \frac{b}{a}(d_0 + d_1)$, where

$t$ = the total number of dies used in a particular type

$b$ = 1,021 (the number of *First Hand* coins in Petersson's 1990 sample)

$a$ = 42 (the number of Lincoln-struck *First Hand* coins in Petersson's 1990 sample)

$d_0 + d_1$ = 106 (the point estimate of Lincoln *First Hand* dies)

$t$ = (1,021/42) * 106

$t$ = 2,577

National confidence limits are calculated by finding the percentage differences of the Lincoln confidence limits to the Lincoln point estimate and multiplying these by the national point estimate

194/106 = 1.83 * 2,577 = 4,716

60/106 = 0.57 * 2,577 = 1,459

Therefore using Esty's die-estimating method, the Lincoln mint data and the Petersson 1990 dataset the point estimate for the national number of dies used to strike *First Hand* is 2,577 dies. The 95% confidence limits are between 1,459 and 4,716 dies. It should be noted that the difference between the upper and lower confidence limits here is fairly large and that this is the case with many of the confidence limits of die estimates across the Lincoln, Winchester and York mints as shown in Appendix C. These estimates are therefore relatively unhelpful in such instances.

### 4.2.6 National die estimates

In what follows, Esty's method will be employed to produce estimates of the total number of dies used nationally from all three mint studies and all three datasets. His formulae represent a more sophisticated development from Lyon's earlier method and it has been noted by Lyon himself that Esty's formulae work particularly well when the number of singletons in a type is high (i.e. when there is more variability in the number of unknown dies).[45] Esty's 95% confidence limits depend on the randomness of the

[45] Lyon, 'Minting in Winchester', 12.

samples, so they emphasise the wide parameters needed when estimating die totals. Allen has produced national estimates for the three mints based upon the Petersson 1969 and Metcalf 1981 corpuses.[46] I have also generated estimates using the Petersson 1990 dataset.[47] The results are tabulated in Appendix C.

Before analysing these results, I shall first compare the Lincoln-based estimates in tables C.1, C.2 and C.3 in Appendix C to those made by Metcalf in 1981 which were based solely on the Lincoln mint and used Lyon's die-estimating method (table 28). Whilst the order of magnitude between the estimates is broadly similar, Metcalf's estimates are all lower than those in tables C.1, C.2 and C.3 (except for *Reform* in Petersson 1990). This is especially so in his own 1981 hoard-based dataset where his estimates are over a thousand dies lower in *Reform*, *Crux* and *Quatrefoil*. These three types are also outside the confidence limits of the current estimates. The reason for this striking difference must be related to the formulae used to generate the results.

[46] Allen, *Mints and Money*, 297–98.
[47] Allen chose not to use the Petersson 1990 dataset since Petersson does not state the sources that he used for it (personal comment).

**Table 28: Metcalf's 1981 estimates of reverse dies**[48]

| Type | National die estimates based on the Lincoln mint |
|---|---|
| Reform | 1,031 |
| First Hand | 2,054 |
| Second Hand | 1,200 |
| Crux | 4,072 |
| Long Cross | 1,824 |
| Helmet | 1,217 |
| Last Small Cross | 2,935 |
| Quatrefoil | 4,655 |
| Pointed Helmet | 2,233 |
| Short Cross | 1,439 |
| Jewel Cross | 874 |
| Fleur-de-lis | 1,225 |
| Arm and Sceptre | 602 |
| Pacx | 511 |
| Radiate | 481 |
| Trefoil Quadrilateral | 697 |
| Small Flan | 250? |
| Expanding Cross | 435 |
| Pointed Helmet | 500 |
| Sovereign | 1,000 |
| Hammer Cross | 1,200 |
| Facing Bust | 900 |
| Pyramids | 200 |
| Pax | 200? |

If we return to an analysis of the mint-output estimates in tables C.1, C.2 and C.3 in Appendix C the overall results may seem dispiriting. The hope was that estimates derived from different mint studies would exhibit convergence, for if that were the case we would have greater confidence in the estimates they generate. Unfortunately this is usually not the case. There is some convergence in the point estimates of *Quatrefoil* and *Pointed Helmet*. However, the difference between the highest and lowest point estimates of the remaining types is often 100% or more. There is also a geographical aspect to this

[48] Metcalf, 'Continuity and Change', ii, 54 and 87.

phenomenon as from *First Hand* to *Helmet*, Lincoln and York have a high number of estimated dies whilst Winchester lags behind. However, from *Jewel Cross* to Edward the Confessor's *Pointed Helmet* Winchester takes precedence over the two northern mints. Here we may be witnessing the over- and under-representation of the three mints at different points in the datasets, as Allen asserted.[49]

A further problem interpreting the data in tables C.1, C.2 and C.3 in Appendix C relates to the lengths of circulation periods. I discuss this in greater depth in chapter 6 (pages 321–29), but coins were issued for longer periods before 1035 (approximately every 6–7 years) than they were after 1035 (approximately every 2–3 years). One way of interpreting the pre- and post-1035 evidence on more equal terms is to group the post-1035 types together to form longer time periods of about 6 years. This method is undoubtedly crude since the traditional datings of the circulation periods of coin types after 1035 (as well as between *c.* 973 and 1035) are highly speculative and assume roughly equal durations. Despite these limitations, this method offers a more like for like comparison with the pre-1035 data. The results are in Appendix C, table C.4.

*Pyramids* and *Pax* (*c.* 1065–66) have not been accounted for in this analysis as they do not fit into a convenient six-year period. The 1048–53 period is also problematic as it contains the conventionally two-year *Small Flan* and three-year *Expanding Cross* types. Therefore, the die estimates have been multiplied by 1.2 to bring them up to six-year estimates. On an individual mint basis, the output of Lincoln drops in the early 1040s and remains low into the early 1050s. However, it rises sharply towards the end of the Confessor's reign. The outputs of Winchester and York remain constant into the mid to late 1040s before dropping suddenly in the early 1050s. Winchester then shows an

[49] Allen, *Mints and Money*, 298.

increase and a further drop using the Petersson 1969 dataset but a sustained increase using the Petersson 1990 dataset. After *Expanding Cross* York's output increases moderately in the Petersson 1969 dataset but continues to decline in Petersson 1990. The general trend is that even when allowance is made for shorter circulation periods, mint output declined in the 1040s and early 1050s before recovering in the late 1050s and early 1060s.

A note should be made here, however, of the extent to which individual hoards can distort our understanding of the relative output of different mints, since this is an issue which is often ignored in statistically-based studies of mint output. For example, Petersson's tables, published in 1990, give a total of 733 *Expanding Cross* pence. However, the Appledore hoard, containing 497 *Expanding Cross* pence, was discovered in 1997. This shows that the discovery of a large hoard can not only dramatically affect the number of known coins for a type, but it can also affect the distribution of mints within a type because Appledore has a strong bias towards mints in Sussex and Kent, especially Canterbury. It is possible that different hoards even out such biases across most types, and I demonstrated above (in table 27) that the single-find evidence may lend some support to this position. However, caution needs to be applied when using hoard-based data to formulate conclusions (see similar discussion of issues surrounding hoard-based material on pages 330–32).

Despite the foregoing criticism of the hoard-based material, plausible explanations for the dip in mint output in the late 1040s and early 1050s remain to hand. The silver which fed the English mints came from large silver mines discovered in the Harz Mountains in Saxony in the 960s. These mines dramatically increased the amount of

silver in circulation not only in Germany but in north-western Europe as a whole.[50] Finds in England of coins struck at Goslar and Cologne may indicate the survival of much greater numbers of German pfennings brought to England during the late tenth and eleventh centuries.[51] Spufford has argued that the output of these mines reached a peak around 1025 and declined rapidly after 1040.[52] If there were lower levels of silver being mined after this date, this would have affected the output of the English mints. This accords well with the lower number of die-estimates in tables C.1, C.2 and C.3 in Appendix C.

There are also two important historical factors to consider. Scandinavian national coinages began to be produced in large numbers from the late 1020s, so some of the Anglo-Saxon coins arriving into the northern lands may have been melted down and converted into the new Danish and Norwegian issues. This would have an impact on the number of Anglo-Saxon coins discovered after this point.[53] A second factor may be related to the cessation of the *heregeld* in 1051.[54] As described above (pages 197–98), this tax was very heavy and it is reasonable to assume that a significant proportion of it was transported to Scandinavia. The drop in the number of die-estimates around the early 1050s may be a function of the termination of the *heregeld* since the hoard-based coin corpuses are mainly comprised of English coins found in Scandinavia. In fact, the cessation of the *heregeld* and the exhaustion of the Harz silver mines may be related. If

[50] Blackburn and Jonsson, 'The Anglo-Saxon and Anglo-Norman Element', 156; Spufford, *Money and its Use*, 74.
[51] B. Cook, 'Foreign coins in medieval England', in L. Travaini (ed.), *Local coins, foreign coins: Italy and Europe 11th-15th centuries. The Second Cambridge Numismatic Symposium*, Società Numismatica Italiana Collana di Numismatica e Scienze Affini 2 (Milan, 1999), 231–84 at 237 and 270.
[52] Spufford, *Money and its Use*, 95; Naismith, 'The English Monetary Economy', 211.
[53] C. J. Becker, 'Studies in the Danish Coinage at Lund during the period *c.* 1030–*c.* 1046', in M. Blackburn and D. M. Metcalf (eds.), in *Viking Age Coinage*, 449–77; D. M. Metcalf, 'Viking-Age Numismatics. 5. Denmark in the Time of Cnut and Harthacnut', *NC*, 159 (1999), 395–430 at 395–97; K. Skaare, *Coins and Coinage in Viking Age Norway* (Lund, 1976), 58–113; S. H. Gullbekk, 'Medieval Law and Money in Norway', *NC*, 158 (1998), 173–83 at 177.
[54] *ASC* D *s. a.* 1052 (*recte* 1051).

there was less silver arriving into England to compensate for that being transferred to Scandinavia then ending this tax may have been a measure to preserve silver levels within England (though see pages 221–22).

The fact that the sequences of data rarely converge means that the historian cannot place much reliance on particular statistics, but some very general trends can be detected with reasonable confidence. There was a sharp increase in the late tenth century during the *Crux* type. There was possibly a dip in output during *Helmet* but it may not have been a six- or seven-year issue (see page 323). Large mint output continues from *Last Small Cross* to Cnut's *Pointed Helmet*, especially so under *Quatrefoil* which may be related to the £82,500 tribute of 1018.[55] Output appears to dip during *Short Cross*, increase during the reigns of Harold I and Harthacnut and dip again at the start of the Confessor's reign with a nadir at *Small Flan*. However, output rises again from *Pointed Helmet* to *Facing Bust*.

*Crux* and *Quatrefoil* yield the highest die estimates of all the types and should perhaps be considered anomalies caused by the need to pay the tributes of 991, 994 and 1018.[56] The relatively high die estimates of *Last Small Cross* may also have been affected by the latter tribute payment. Assuming that the minting activity of the remaining types is more 'regular' then we can see from tables C.1, C.2, C.3 and C.4 in Appendix C that the estimated outputs per type across all the mints and datasets usually fall between 1,000 and 3,000 dies. There are, however, a few exceptions to this in table C.4 where some estimates reach over 3,000 and 4,000 dies between 1036 and 1048.

[55] *ASC* D and E *s. a.* 1018.
[56] *ASC* C *s. a.* 991 and 994; *ASC* D and E *s. a.* 1018.

The final step in estimating mint output is to estimate the number of coins struck by the number of dies used for each type. This is done by multiplying the die estimates by the average number of coins struck per die. Buttrey has questioned the utility of these calculations on the grounds that they are subject to a wide range of variables.[57] To complicate matters further, no evidence from the period *c.* 973 to 1066 survives which relates to the average output per die. However, Allen has gathered data relating to thirteenth- and fourteenth-century die outputs. These are calculated by dividing the amount of silver 'purchased' by certain mints at certain times, which are recorded in the pipe rolls, by the estimated number of dies used at those mints at those times.[58] He claims it not overtly problematic to project these averages back onto dies from the tenth and eleventh centuries.[59] His findings are as follows:

**Table 29: Allen's estimated average outputs of reverse dies, 1249–1327**

| Mints | Period | Denominations | No. of dies | Average output of coins per die |
|---|---|---|---|---|
| Shrewsbury | 1249–50 | 1d. | 86 | 20,000 |
| London and Canterbury | 1281–1307 | 1d. + ½d. + ¼d. | 16,796 | 16,692 |
| London and Canterbury | 1307–27 | 1d. + ½d. + ¼d. | 9,474 | 15,392–15,396 |
| Bristol | 1300 | 1d. | 187 | 17,426 |
| Chester | 1300 | 1d. | 32 | 11,010 |
| Exeter | 1300 | 1d. | 80 | 11,754 |
| Newcastle | 1300 | 1d. | 108 | 11,722 |
| York (royal) and Kingston upon Hull | 1300 | 1d. | 256 | 16,868 |

[57] T. V. Buttrey, 'Calculating Ancient Coin Production: Facts and Fantasies', *NC*, 153 (1993), 335–51.
[58] M. Allen, 'Medieval English Die-Output', *BNJ*, 74 (2004), 39–49 at 39; R. Cassidy, 'The Exchanges, Silver Purchases and Trade in the Reign of Henry III', *BNJ*, 81 (2011), 107–18 at 107–08.
[59] M. Allen, 'The Volume of the English Currency, *c.* 973–1158', in *Coinage and History*, 487–523 at 489–90.

A reasonable conclusion from Allen's data is that dies in the thirteenth and fourteenth centuries struck between 10,000 and 20,000 coins. The average from Allen's eight output figures comes to just over 15,000 coins per die. Using these parameters I have generated estimates of mint output over periods of six years from *c.* 973 to 1066:

**Table 30: estimates of mint output *c.* 973 to 1066 over periods of six years**

| | **Lower estimate (1,000 dies)** | | **Middle estimate (2,000 dies)** | | **Upper estimate (3,000 dies)** | |
|---|---|---|---|---|---|---|
| No. of coins per die | No. of pence | Value in £ | No. of pence | Value in £ | No. of pence | Value in £ |
| 10,000 | 10,000,000 | *c.* £40,000 | 20,000,000 | *c.* £80,000 | 30,000,000 | *c.* £125,000 |
| 15,000 | 15,000,000 | *c.* £60,000 | 30,000,000 | *c.* £125,000 | 45,000,000 | *c.* £185,000 |
| 20,000 | 20,000,000 | *c.* £80,000 | 40,000,000 | *c.* £165,000 | 60,000,000 | *c.* £250,000 |

Though it is clear from tables C.1, C.2, C.3 and C.4 in Appendix C that mint output varied from type to type, the figures in table 30 suggest that average mint output may have hovered around £125,000 per six-year period. Large types such as *Crux* and *Quatrefoil* may have been nearer to £250,000 whereas mint output may have been nearer £80,000 from the mid 1040s to the early 1050s.

## 4.3 The size of the currency

The focus will now shift from estimates of mint output to the size of the currency in circulation. The two are related but not identical, and this section will explore the relationship between them. There are currently two models which attempt to quantify currency size but they arrive at their estimates in very different ways. The merits of both models assessed before some revised currency-size estimates are proposed.

### 4.3.1 Metcalf's model

In 1981, Metcalf produced a currency-size model for the period *c.* 973–1059 to complement his national die estimates for the same period (in table 28).[60] He identified the factors which both added to mint output and those which subtracted from it, and the remainder from this process was the theoretical size of the currency.

Metcalf starts with his national die estimates from the Lincoln mint data. He multiplied these by an average of 10,000 coins per die to generate estimates of the volume of mint output for each type. Metcalf envisages that these estimates were primarily met in two ways: by the reminting of obsolete coin (regular recoinages) and through foreign inflows of silver via trade.[61] He acknowledges other sources which would have contributed to the flow of silver through the mints, such as silver from national mining, the melting down of church plate and older hoarded coins. However, they do not make it into his model as variables since he argues that they would not have affected the mint-output totals generated from recoinages and trade inflows to any significant degree.[62]

Outflows in his model are represented in two main forms: through tribute and *heregeld* payments, and via trade outflows. For the former, Metcalf is guided by the documentary evidence of the *Chronicle* and by the chiefly Scandinavian numismatic evidence described earlier in the chapter. Metcalf recognises that other factors contributed to the withdrawal of coin from the circulating currency, such as the conversion of coin into treasure or jewellery and hoarding, but again considers these too insignificant to model.

[60] Metcalf, 'Continuity and Change', ii, 57–65.
[61] See chapter 5 for a discussion on the system of recoinage and chapter 6 for a discussion on silver inflows via trade.
[62] Metcalf, 'Continuity and Change', ii, 59.

Finally, Metcalf generates the estimated size of the currency for each type by subtracting the outflow estimate from the mint-output estimate.

Metcalf populates his model with numerical estimates of the sizes of recoinages, trade inflows, tribute and *heregeld* payments and trade outflows to demonstrate how the monetary economy could have functioned and how the size of the currency could have been reached. Metcalf himself recognises the arbitrariness of the figures in the model and the assumptions he makes in generating them. These assumptions also cause the model to fail in places. Furthermore, the model is based on die estimates from the Lincoln mint, but it has been shown that the die estimates produced from the Winchester and York mints often yield very different figures. Substituting these into Metcalf's model would produce a very different set of statistics.

However, the point of this model lies not in the absolute figures but in the analysis of interrelated factors governing the size of the currency. Estimates of mint output must be the starting point for any attempt at calculating the size of the currency since they represent the potential upper limit of coinage in circulation (although there will also be a varying percentage of older coin in circulation at any given moment). Large inflows of silver via trade must have been a major factor contributing to mint output, as may also have been a system of regular recoinage. Tribute, *heregeld* and trade outflows were surely key factors in the loss of cash from circulation within England. To the list of other subtractions to be made from mint output could be added accidental losses since the corpus of single finds has grown exponentially since the 1970s. The model remains a useful conceptual tool, though little reliance can be placed on any of the particular statistics it generates.

### 4.3.2 Currency-size models based on the average number of single finds per year and 1158 mint-output estimates

In 2006, Allen suggested a new method to estimate the size of the currency in the Anglo-Saxon and Norman periods by using the frequency of single finds per year (modern years, not years in the eleventh century) as a function of mint output.[63] This method aims to circumvent the difficulties in measuring the inflow and outflow variables of Metcalf's model by using absolute single-find numbers regardless of influencing factors. Rigold showed a relationship between the number of single finds from excavated sites and the volume of the English currency from the late twelfth to the fifteenth centuries.[64] Allen used single-find data from the EMC database (to 2004) for the period *c.* 973–1180 to test this relationship for the Anglo-Norman period. He divided the period into seven sub-periods and calculated the number of single finds per year within each of these divisions:

**Table 31: finds per year of single finds in the EMC database to 2004[65]**

| Period | No. of finds | Average number of single finds per year |
|---|---|---|
| *c.* 973–1016 | 363 | 8.4 |
| 1016–1042 | 250 | 9.6 |
| 1042–1066 | 321 | 13.4 |
| 1066–1100 | 233 | 6.9 |
| 1100–35 | 247 | 7.1 |
| 1135–1158 | 329 | 14.3 |
| 1158–80 | 296 | 13.5 |

The next stage in Allen's model links these annual single-find totals to Latimer's 1158 recoinage estimate of £20–50,000.[66] Since it is unclear how recoinages functioned prior

[63] Allen, 'The Volume of the English Currency', 499–501.
[64] S. E. Rigold, 'Small Change in the Light of Medieval Site-Finds', in N. Mayhew (ed.), *Edwardian Monetary Affairs, 1279–1344* (Oxford, 1977), 59–80.
[65] Allen, 'The Volume of the English Currency', 501.

to 1158 or how complete they were, the recoinage estimate of this year is used because it is the closest full recoinage to the Anglo-Norman period for which we have information, albeit limited. The recoinage would presumably have converted almost all of Stephen's type VII into Henry II's *Cross and Crosslets* type (1158–1180), which is why this estimate may be a reasonable indicator of the size of the currency in 1158. Latimer's figure was derived from Metcalf's die study of *Cross and Crosslets* which yielded an estimated total of 1,044 obverse dies for the type.[67] Metcalf claimed that the ratio of obverse to reverse dies in this type was 1:1 except at London and Ipswich where the ratio was more like 1:2. By doubling the London and Ipswich obverse totals Metcalf reached a total of 1,344 reverse dies for the type.[68] Metcalf states that under Edward I (1272–1307) the average output of coins per reverse die was around 20,000 and that under Edward II (1307–27) it was 14,000. He multiplies the 1,344 reverse dies by these two figures to generate output totals of 27,000,000 and 19,000,000 coins, respectively. He then cautiously estimates the total output of *Cross and Crosslets* at between 10,000,000 and 30,000,000 coins.

Metcalf uses the *Cross and Crosslets* classification system, devised by D. F. Allen in 1951, to distinguish between different phases of mint output in the type.[69] Class A represents dies used during the years 1158–61, and, using Lyon's die-estimating method, Metcalf estimates the number of reverse dies used during this period at 559 out of the total of 1,344 (41.6%). Latimer cautiously argues that this represents the period of the recoinage

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[66] P. Latimer, 'The Quantity of Money in England 1180–1247: a model', *Journal of European Economic History*, 637–59 at 640–44.
[67] D. M. Metcalf, 'A Survey of Numismatic Research into the Pennies of the First Three Edwards (1279–1344) and their Continental Imitations', in *Edwardian Monetary Affairs*, 1–31 at 26–31.
[68] Ibid., 26 and 31.
[69] D. F. Allen, *A Catalogue of English Coins in the British Museum: The Cross-and-Crosslets Type of Henry II* (London, 1951).

from Stephen's type VII, and calculates 41.6% of Metcalf's lower and upper estimates for the *Cross and Crosslets* coinage to generate his recoinage estimates:

10,000,000 x 0.416 = 4,160,000 coins = £17,330

30,000,000 x 0.416 = 12,480,000 coins = £51,990

Latimer rounds these figures to generate his recoinage estimate of £20,000–£50,000.[70]

Returning to Allen's currency-size model, the annual number of single finds discovered for the period 1135–58 is 14.3. If this is representative of the number of single finds on the eve of the recoinage then there is a relationship between this figure and the currency-size estimate of £20–50,000 in 1158. This can be scaled accordingly for the single-find totals of the other periods. For example, for the periods 1066–1100 and 1100–35 the totals are 6.9 and 7.1, respectively, which are approximately half of the 14.3 figure for the period 1135–58. This may suggest a currency size of £10–25,000 for 1066–1135. The full model is as follows:

**Table 32: Allen estimates of the volume of the currency**[71]

| Period | Estimate of the volume of the currency |
|---|---|
| *c.* 973–1016 | *c.* £15,000–£30,000 |
| 1016–42 | *c.* £15,000–£30,000 |
| 1042–66 | *c.* £20,000–£50,000 |
| 1066–1135 | *c.* £10,000–£25,000 |
| 1135–58 | *c.* £20,000–£50,000 |

Allen suggests that these single-find figures can be reconciled with the mint-output estimates, which reach their zenith under Æthelred II and Cnut (978–1035), if it is assumed that large quantities of English coins were exported to the northern lands

[70] Latimer, 'Quantity of Money', 642–43.
[71] Allen, 'The Volume of the English Currency', 501.

during this period. The currency may then have increased under Edward the Confessor when the large-scale export of coins to Scandinavia appears to have ceased during the second half of his reign. Allen remarks that the marked decline after 1066 may relate to Spufford's assertion that there was a general lack of money within England from the 1070s.[72] Spufford states that:[73]

'The flow of silver from the Harz was relatively short-lived. It reached a peak around 1025 and diminished rapidly after 1040, although a very little silver-mining was still being carried out near Goslar over a century later'.[74]

He also observes that:

'The collapse of Frisian trade cut off the supplies of new silver to England and the sagging demand for wool and cloth brought about a general malaise in English commerce that has sometimes been misconstrued as a nefarious side effect of the Norman conquest of the country, rather than as part of a general North European recession. In England the decline in the availability of money began around the 1070s and is most marked'.[75]

However, Spufford does not cite any sources for these statements; and there is a risk of circularity to his argument since he may be basing his reasoning on the dwindling number of English coins in the Scandinavian hoard-based datasets.

The number of single finds has continued to increase significantly since the publication of Allen's currency-size model in 2006 and a comparison with the latest total of single

[72] Allen, 'The Volume of the English Currency', 499–500.
[73] Spufford, *Money and Its Use*, 95–97.
[74] Ibid., 95.
[75] Ibid., 97.

finds shows how far the corpus has grown (table 33).[76] However, the main interest lies in seeing whether the percentage differences between the numbers of finds per year have remained constant. If changes have occurred, this would alter the values assigned to Allen's currency size estimates. Table 33 also includes the number of single finds for the period 924–*c.* 973 since this thesis opens at the former date:

**Table 33: comparison of Allen's 2004 EMC single-find totals with the 2012 totals**

| | **Allen 2004** | | | **Fairbairn 2012**[77] | | |
|---|---|---|---|---|---|---|
| *Period* | *Finds* | *Finds per year of issue* | *% change* | *Finds* | *Finds per year of issue* | *% change* |
| 924–*c.* 973 | – | – | – | 217 | 4.4 | – |
| *c.* 973–1016 | 363 | 8.4 | – | 470 | 10.9 | +248% |
| 1016–1042 | 250 | 9.6 | +14% | 359 | 13.8 | +27% |
| 1042–1066 | 321 | 13.4 | +40% | 444 | 18.5 | +32% |
| 1066–1100 | 233 | 6.9 | –49% | 336 | 9.9 | –47% |
| 1100–1135 | 247 | 7.1 | +3% | 394 | 11.3 | +14% |
| 1135–1158 | 329 | 14.3 | +101% | 456 | 19.8 | +75% |
| 1158–1180 | 296 | 13.5 | -6% | 432 | 19.6 | –1% |
| Totals | 2,039 | | | 3,108 | *(2,891 for c. 973–1180)* | |

The low number of single finds between 924 and *c.* 973 perhaps reflects the relative lack of silver in the economy before the discovery of Harz silver in the 960s. After *c.* 973, the percentage changes between the periods are of similar orders of magnitude between Allen's figures and my own. We see a slightly larger rise between *c.* 973–1016 and 1016–1042 and a slightly smaller rise between 1016–1042 and 1042–1066 in the current corpus, but between both there is still a remarkable drop at the beginning of the Norman period. Both also rise dramatically during Stephen's reign, which is sustained to 1180.

[76] Only coins from the EMC database have been used here to make a fair comparison with Allen's data. The discussion of single finds in chapter 6 is based on data drawn from the EMC and PAS databases and from the card index at the British Museum.
[77] EMC accessed on 3rd February 2012.

The figure for the single-find period 1042–1066 remains noticeably high. Since the figures from *c.* 973–1042 and from 1066–1135 are broadly comparable in terms of the numbers of single finds per year, a closer look at the number of single finds per type during the period 1042–1066 may shed some light on the matter:

**Table 34: number of single finds per type, 1042–66**[78]

| Type | Conventional dates | Number of single finds per type |
|---|---|---|
| Pacx | *c.* 1042–44 | 25 |
| Radiate | *c.* 1044–46 | 32 |
| Trefoil Quadrilateral | *c.* 1046–48 | 24 |
| Small Flan | *c.* 1048–50 | 60 |
| Expanding Cross | *c.* 1050–53 | 68 |
| *(Expanding Cross Light)* | *(c. 1050–53)* | *(23)* |
| *(Expanding Cross Heavy)* | *(c. 1050–53)* | *(38)* |
| *(Expanding Cross Unknown Weight)* | *(c. 1050–53)* | *(7)* |
| Pointed Helmet | *c.* 1053–56 | 38 |
| Sovereign | *c.* 1056–59 | 32 |
| Hammer Cross | *c.* 1059–62 | 34 |
| Facing Bust | *c.* 1062–65 | 49 |
| Pyramids | *c.* 1065–66 | 25 |
| PAX (Harold II) | 1066 | 36 |
| Total | | 423 |

The figures for *Small Flan*, *Expanding Cross* and *Facing Bust* are higher than the remaining types. Petersson has shown that the *Small Flan* and *Expanding Cross Light* types were the last in a succession of coinages from Cnut's *Pointed Helmet* to be struck at a relatively light weight of around 1.10–1.14 grams. The *Small Flan* type also contains many coins below 0.90 grams.[79] This may have been caused by a government wishing to squeeze as

[78] Total excludes mules and coins of the period which are unidentifiable by type.
[79] Petersson, 'Coins and Weights', 347.

many coins out of the dwindling silver supplies as possible.[80] It is conceivable that people recognised this, since light pennies would have negatively affected those, particularly peasants, making cash payments by weight. Similarly, merchants taking English coin overseas would have been disadvantaged by lighter coin since they would not have been able to purchase as much as they had done beforehand.

The abolition of the *heregeld* may have been the government's solution to this bullion problem if it can be assumed that mercenaries were withdrawing too much silver from circulation and exporting it to Scandinavia. The abolition may have occurred during the *Expanding Cross* type, which would assume a move from the lighter issue to the heavier.[81] The weight increase in this type may have been introduced to bring back confidence in the value of the penny or to control any subsequent inflation caused by the retention of silver in the economy (though such arguments remain highly speculative). Although heavier coins continued to be struck from the 1050s onwards in comparison to the lighter weights of coins of the 1040s, the exception to this rule was *Facing Bust* since it displays a low weight similar to the coinages up to *Expanding Cross Light*.[82] The higher number of single finds during this type may be related to the need to squeeze more silver from the stock of bullion since Nightingale argues that the *heregeld* was re-imposed between 1062 and 1064.[83] It should also be noted that Barlow has argued the cessation of the *heregeld* in 1051 was not permanent. He draws attention to a

[80] Nightingale, 'The Ora, the Mark and the Mancus', ii, 244. Nightingale sees the weight changes as an attempt by the Confessor to calibrate the English coinage with the new issues of Harald Hardraada of Norway.
[81] G. Williams, 'A hoard of 'Expanding Cross' pennies from Appledore: preliminary report', *NCirc*, 106, no. 4 (1998), 152–53 suggests that the heavy issue may have preceded the light because the Appledore hoard contained 497 *Expanding Cross* heavy specimens, no light specimens, and six previous types dating back to Cnut. However, S. Lyon, 'The 'Expanding Cross' type of Edward the Confessor and the Appledore (1997) hoard', *NCirc*, 106, no. 10 (1998), 426–28 favours the conventional ordering of the issue from light to heavy based upon the evidence of *Expanding Cross* types in other hoards (both English and Scandinavian) and the fact that the heavy issue may have been hoarded for savings whilst the lighter type may have been kept separate for more regular use.
[82] Petersson, 'Coins and Weights', 347.
[83] Nightingale, 'The Ora, the Mark and the Mancus', ii, 244–45.

writ of King Edward the Confessor, datable 1051x1057, which exempts the *inland* of Bury St. Edmunds from paying '*heregelde*' and other renders (*gafol*), and also to passages in Domesday Book referring to payments of geld during the Confessor's reign.[84] These are important arguments, though it is possible that the *heregeld* was levied more intermittently after 1051. It is also possible that it acted as a model for other, later forms of taxation at a lower, less punitive, rate.[85]

By producing lighter coins to combat the dwindling inflow of silver, the administration and the moneyers actually appear to have increased the size of the currency in England in the late 1040s and the early 1050s and again in the early 1060s. If the single find totals for *Small Flan*, *Expanding Cross* and *Facing Bust* were substituted for totals closer to the other coinages in the period 1042–66, for example 30, then the average number of single finds per year for this period would drop to 14.0 which is very close to the 13.8 figure for the period 1016–42. Therefore, the precipitous drop in the number of single finds per year between the periods 1042–66 and 1066–1100 in table 33 obscures the changes from type to type in the former period and hides the administrative changes to the coinage which occurred.

However, there still remains a slight decrease in the number of single finds per year for the period 1066–1135. Dwindling levels of silver from the Harz Mountains could help to explain this pattern but other evidence exists which may point towards the Norman Conquest as having an impact, despite Spufford's assertion to the contrary. At a royal level we can see coins crossing the English Channel to Normandy. The contemporary chronicler William of Malmesbury describes the flow of money from England to

[84] F. Barlow, *Edward the Confessor*, 2nd edition (New Haven and London, 1997), 106n; *Anglo-Saxon Writs*, ed. and transl. F. Harmer (Manchester, 1952), no. 15; also see pages 158–64 for a discussion of taxation in Domesday Book and elsewhere.
[85] Campbell, 'Hundreds and Leets', 161.

Normandy in vivid terms. After describing a portent on the border between Normandy and Brittany which saw a double-headed and double-torsoed woman, one laughing, eating and talking, the other crying, fasting, and silent, he draws a comparison between this creature and the Anglo-Norman realm:

'Putatum est a quibusdam, et litteris etiam traditum, quod hae mulieres Angliam et Normanniam significauerunt, quae, licet spatiis terrarium sint diuisae, sunt tamen sub uno dominio unitae. Hae quicquid pecuniarum auidi faucibus insorbuerint, in unam lacunam defluit, quae sit uel principum auaritia uel circumpositarum gentium ferotia. Mortuam et pene exhaustam Normanniam uigens pecuniis sustentat Anglia, donec et ipsa fortassis succumbat exactorum uiolentia'

[Some people thought, and the idea was even published, that these women signified England and Normandy which, although geographically divided, are yet united under one rule. Whatever money these two engulf in their greedy jaws descends into a single maw, which may be either the greed of princes or the ferocity of neighbouring nations. Normandy, dead and nearly sucked dry, is supported by the financial strength of England, until maybe she herself is overwhelmed by the violence of her oppressors].[86]

Even when full allowance is made for William's prejudices and the rhetorical force of his prose, this remains striking evidence that an informed contemporary believed money was flowing out of England and into Normandy in significant quantities during the Anglo-Norman period.

Firmer documentary evidence charting the royal movement of coin from England to Normandy exists. Between the years 1090 and 1124, the *Chronicle* repeatedly states: 'In this year . . . the king went overseas to Normandy . . . and the people . . . were often

[86] William of Malmesbury, *Gesta Regum Anglorum*, ed. and transl. R. A. B. Mynors, R. M. Thomson, and M. Winterbottom, (Oxford, 1998), i, 384–87. Mynor's translation.

severely oppressed by the taxes the king took'.[87] Another example is when William II bought the duchy of Normandy from his elder brother Robert Curthose for 10,000 marks (£6,666) so that the latter could participate in the first crusade.[88] A further example comes from 1101 when Henry I signed a treaty with the count of Flanders whereby the latter provided a body of mercenary knights to the English king in return for an annual payment of £500. This payment could only have been raised in England since Henry I was not duke of Normandy at this point.[89]

Money could be diverted to Normandy via other means, for example by Norman lords and churchmen for the founding and refounding of churches and cathedrals on the continent. Some Norman lords also remained particularly attached to their continental inheritances. Furthermore, the amount of land granted to Norman religious houses in England suggests that revenues may have flowed more from England to Normandy than vice versa.[90] In chapter 1 I gave the example of the manor of Felstead, Essex, which belonged to the Abbey of Holy Trinity Caen, where the sokemen carried the farm of the manor to Winchester where it was presumably transported to Caen (see page 34–35). If the majority of the new continental aristocracy expected their English revenues to be shipped across the Channel then this may account for some of the loss of silver from circulation in England after 1066.

Numismatic evidence from Normandy may shed further light upon the movement of English coin across the Channel. However, the material is very thin since only 3 hoards containing English coins of the period 1066–1135 have been discovered there. The

[87] J. Le Patourel, *The Norman Empire* (Oxford, 1976), 203 and 329; *ASC* E *s. a.* 1090, 1096, 1097, 1098, 1104, 1105, 1110, 1116, 1117, 1118, 1124.
[88] *The Chronicle of John of Worcester*, ed. and transl. P. McGurk (Oxford, 1998), iii, 84–85; *ASC* E *s. a.* 1096.
[89] Le Patourel, *Norman Empire*, 329.
[90] Ibid., 331–34 and 347.

Lillebonne find of the 1840s allegedly contained several William II pennies, one of which was of the *Cross Voided* type (conventionally dated *c.* 1092–5). The Louviers hoard of 1877 may have contained several coins, 2 (perhaps 3) of which were of the *PAXS* type (conventionally dated *c.* 1083–86, now thought to date *c.* 1087–90).[91] A third hoard discovered in Normandy is the uncertain and undated 'en Basse-Normandie' hoard ('in Lower Normandy'). This contained 5 *PAXS* pence, 1 unknown penny of King Stephen (1135–1154), 4 *Cross and Crosslets* pence of Henry II (1154–1189), 42 *Short Cross* pence (which circulated between 1180 and 1247) and 2 Irish pence of King John (1199–1216).[92] More recently, the Pimprez hoard discovered in Picardy (to the east of Normandy) contained 375 coins of Henry I and 71 coins of King Stephen, amongst a selection of continental coins.[93] Finally, the 'Beauvais' hoard (so-called because some of the coins included within it are from the abbey of Beauvais despite the precise findspot remaining unknown) contained 1 type I penny of William II, 175 coins of Henry I, 143 coin of Stephen as well as 8 others from his reign, and 12 continental ecclesiastical coins.[94] Despite the sparsity of the evidence, Williams has argued that due to the tenurial and cultural links created across the English Channel after 1066, the absence of English finds in Normandy probably represents closely controlled reminting of foreign coin on both sides of the English Channel rather than a dearth of monetary contact.[95]

The recorded instances of single finds in Normandy are also rare. This is because metal-detectoring is illegal in France, and because there is no systematic method for recording

[91] J. C. Moesgaard, 'Two Finds from Normandy of English Coins of the Norman Kings (1066–1154)', *NC*, 154 (1994), 209–13.
[92] J. Duplessy, *Les Tresors Monetaires Medievaux et Modernes Decouverts en France* (Paris, 1985), i, no. 397.
[93] M. Phillips, E. Freeman and P. Woodhead, 'The Pimprez Hoard', *NC*, 171 (2001), 261–346 at 261 and 263–64.
[94] *The 'Beauvais' Hoard of Anglo-Norman Pennies, English and Foreign Coins*, Glendining's Sale Catalogue, 4th November 1987.
[95] G. Williams, 'Monetary Contacts Between England and Normandy, *c.* 973–1180: A Numismatic Perspective', in J. Chameroy and P-M Guihard (eds.), *Circulations Monétaires et Réseaux D'échanges en Normandie et dans le Nord-Ouest Européen (Antiquité–Moyen Age* (Caen, 2012), 251–62.

coin finds. Indeed, only 5 single finds are currently known. A penny of William I has been discovered at Thaon, Calvados, and 2 single-find pennies of Henry I have been discovered at Saint-Wandrille-Rançon and at Pont-Saint-Pierre.[96] At Sébécourt, 2 *PAXS* coins have also been found during archaeological excavations there.[97] Unfortunately, the Norman numismatic evidence relating to English coins is too sparse or poorly documented to come to any firm conclusion regarding the export of cash from England to Normandy after the Conquest.

### 4.3.3 Revised estimates of the size of the currency in 1158 and updated currency-size estimates for the Anglo-Saxon and Norman periods based on Allen's single-find model

Other estimates of the size of the currency in 1158 exist, which have all been generated by Allen. In 2001, he estimated this to have been £30,000–£80,000 and arrived at this figure by using Metcalf's *Cross and Crosslets* study.[98] Metcalf's estimate of the number of obverse dies used in class A was 447. However, some of these dies would also have been used to strike silver bullion flowing into the country, and Allen makes an allowance for this. The remainder of the estimated number of obverse dies used for classes B to F between 1160 and 1180 was 597, which approximates to the use of 30 obverse dies per year. Since the recoinage took two years, Allen subtracts two years' worth of this consumption rate from the 447 estimate for class A to leave an estimate of approximately 400 obverse dies used during the recoinage of 1158–60. By multiplying this figure by the average number of coins struck by obverse dies in the thirteenth and fourteenth centuries (20,000–50,000 coins per die), the estimated total number of coins

[96] J. C. Moesgaard, 'La monnaie au temps de Guillaume le Conquérant', in *La Tapisserie de Bayeux: Une Chronique des temps Vikings?* (Bonsecours, 2009), 89–99 at 97.
[97] Moesgaard, 'Two Finds', 211.
[98] M. Allen, 'The Volume of the English Currency, 1158–1470', *EcHR*, 54 (2001), 595–611 at 598 and 607.

produced during the 1158–60 recoinage was 8,000,000 to 20,000,000.[99] This is equivalent to £30,000 to £80,000.

In 2006, Allen suggested a new estimate for the size of the currency in 1158: £15,000–£30,000.[100] D. F. Allen had originally classed coins which were 'similar' to other coins produced from known dies in his *Cross and Crosslets* study as coming from dies which were not known. M. Allen eliminated these 'similar' coins with no die identification from his own study as well as re-examining the reverse die data.[101] Using Esty's statistical algorithms, M. Allen generated estimates of *c.* 384 reverse dies for class A, and multiplying them by an average of 10,000–20,000 coins per reverse die generates an output estimate of 3,840,000–7,680,000 or £16,000–£32,000. Allen acknowledges that dies used in class A would also have struck silver from foreign inflows. However, he further notes that coins of *Cross and Crosslets* were struck to a heavier weight than those of Stephen's type VII. On this basis he argues for a 10% reduction in the output estimate for class A of *Cross and Crosslets* to reach an output estimate specifically generated from reverse dies used during the recoinage of 1158–60 of £15,000–£30,000.

Allen also calculates that class A of *Cross and Crosslets* was struck by *c.* 366 obverse dies. Multiplying these by an average of 20,000–50,000 coins per obverse die generates an output estimate of 7,320,000–18,300,000 coins or £30,000–£76,000. Applying the 10% reduction to the obverse mint-output estimate generates a revised estimate of £30,000–£70,000. Allen argues, however, that any estimate based on obverse dies would have, in reality, been limited to the output of the reverse dies.[102]

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[99] Ibid., 597n. These figures are summarised and tabulated in Allen, *Mints and Money*, 132.
[100] M. Allen, 'The English Coinage of 1153/4–1158', *BNJ*, 76 (2006), 242–302 at 260–63.
[101] Ibid., 261.
[102] Ibid., 261.

Table 35 uses Allen's single-find model to generate estimates of the size of the currency for the late Anglo-Saxon and Norman periods based on the four existing currency-size estimates for 1158 and the 2012 single-find data. There are, of course, difficulties with using such estimates. For example, Allen's 2001 and Latimer's 2003 currency-size estimates for 1158 were generated from Lyon's statistical algorithms, and they also both rely on obverse-die data to generate reverse-die estimates. Furthermore, none are based on contemporary records of die output.[103] The chronology of the classes of the *Cross and Crosslets* type was also reviewed by Crafter who suggested that class A may have run until 1163, not 1161. If this is the case then the number of dies used in the 1158–60 recoinage may have been less than is suggested by the four estimates.[104]

[103] Allen, *Mints and Money*, 322.
[104] T. C. R. Crafter, 'A Re-examination of the Classification and Chronology of the *Cross-and-Crosslets* type of Henry II', *BNJ*, 68 (1998), 42–63 at 49.

**Table 35: new currency-size estimates based upon the 2012 EMC single-find totals and the four existing currency-size estimates of 1158**

| Period | Single finds per year | Allen 2001 *(£30,000–£80,000)* | Latimer 2003 *(£20,000–£50,000)* | Allen 2006 – reverse dies *(£15,000–£30,000)* | Allen 2006 – obverse dies *(£30,000–£70,000)* |
|---|---|---|---|---|---|
| 924–*c.* 973 | 4.4 | *c.* £5,000–£20,000 | *c.* £5,000–£10,000 | *c.* £2,500–£7,500 | *c.* £7,500–£15,000 |
| *c.* 973–1016 | 10.9 | *c.* £15,000–£45,000 | *c.* £10,000–£30,000 | *c.* £7,500–£15,000 | *c.* £15,000–£40,000 |
| 1016–1042 | 13.8 | *c.* £20,000–£55,000 | *c.* £15,000–£35,000 | *c.* £10,000–£20,000 | *c.* £20,000–£50,000 |
| 1042–1066 | 18.5 | *c.* £30,000–£75,000 | *c.* £20,000–£45,000 | *c.* £15,000–£30,000 | *c.* £30,000–£65,000 |
| 1066–1100 | 9.9 | *c.* £15,000–£40,000 | *c.* £10,000–£25,000 | *c.* £7,500–£15,000 | *c.* £15,000–£35,000 |
| 1100–1135 | 11.3 | *c.* £15,000–£45,000 | *c.* £10,000–£30,000 | *c.* £7,500–£15,000 | *c.* £15,000–£40,000 |
| 1135–1158 | 19.8 | *c.* £30,000–£80,000 | *c.* £20,000–£50,000 | *c.* £15,000–£30,000 | *c.* £30,000–£70,000 |

Although different methods were used to generate these estimates, the figures in table 35 do not differ too greatly from each other. The estimates made using Allen's 2006 reverse-die figure are clearly the lowest but even the upper parameters of currency size for each period generated from this figure match the lower parameters of the other estimates. Wide parameters for estimating currency-size are sensible to use because the currency could fluctuate between types, as shown in the above discussion of the coinages during the period 1042–66. However, it is encouraging that the highest

estimates of currency-size in table 35 are all lower than the suggested average mint-output figure in table 30 of £125,000 per six-year period between *c.* 973 and 1066.

Allen's 1158 currency-size estimate of £15,000–£30,000 has come under criticism from Crafter for being too low since the pipe roll of 1158/9 totals the royal revenue at £19,320 0s 8d.[105] Crafter suggests a currency size of £20,000–£30,000 in its place. Allen counters this by observing that only half of the money would have been paid at Michaelmas (*c.* £10,000) with the other half being paid at Easter.[106] Presumably some of the Michaelmas cash would have been dispersed back into the economy by the administration, and may have been re-collected in time for the Easter payment.

Nevertheless, Allen's estimate of £15,000–£30,000 and the other currency-size estimates which flow from it do seem a little low. In 1014 and 1040 the *heregeld* was £20,000 in size, and collection of this tax would have consumed a very large proportion of the circulating currency from 1016–42 (the Exon geld lists show that payments were made in two instalments in 1086, and it is likely that the same applied to the collection of the *heregeld*). Some of the money raised by the *heregeld* would presumably have been put back into the economy when it was spent by the mercenary soldiers. Even so, removing such large amounts from the circulating currency so regularly seems improbable. Furthermore, if there was to be enough coin in the circulating currency to facilitate the widespread use of money amongst all levels of society, as demonstrated in chapters 1 and 3, then Allen's 2006 reverse-die currency-size estimate perhaps errs on the low side.

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[105] T. C. R. Crafter, 'Monetary Expansion in Britain in the Late Twelfth Century', (Oxford University D.Phil. Dissertation, 2008), 47–48 and 59–60.
[106] Allen, *Mints and Money*, 322.

I propose a model of the currency between 924 and 1135 which takes the lowest of the estimates drawn from Allen's 2006 reverse-die figures and the highest of the estimates drawn from Allen's 2006 obverse-die figures (table 36). Despite the criticism of estimates drawn from obverse-dies, such a model has the benefit of sensibly wide parameters and of being based upon the latest research into the *Cross and Crosslets* type. The model also incorporates most of Allen's 2001 and Latimer's 2003 currency-size-estimate parameters, and allows for a level of coin to remain in circulation after the withdrawal of heavy taxation. However, the upper parameters in this model are, on average, five times higher than the lower parameters which may potentially limit the usefulness of this model; for example, the 1014 *heregeld* figure of £21,000 would have a very different impact upon a circulating currency of £7,500 compared to £40,000 if a substantial proportion of the tax were withdrawn to Scandinavia.

**Table 36: preferred estimates of the size of the circulating currency, 924–1135**

| Period | Estimate of the volume of the currency |
|---|---|
| 924–*c.* 973 | *c.* £2,500–£15,000 |
| *c.* 973–1016 | *c.* £7,500–£40,000 |
| 1016–42 | *c.* £10,000–£50,000 |
| 1042–66 | *c.* £15,000–£65,000 |
| 1066–1100 | *c.* £7,500–£35,000 |
| 1100–35 | *c.* £7,500–£40,000 |
| 1135–58 | *c.* £15,000–£70,000 |

## 4.4 Conclusion

The new estimates of mint output produced in this chapter (see table 30) are higher than almost all previous estimates. However, they have been generated using the existing numismatic data and methodologies, not from any new and innovative

procedures. The main reasons for their greater size are two-fold: firstly, using Esty's method to produce mint-output estimates tends to yield higher results than using Lyon's method. Secondly, using an average coin-per-die multiplier of 15,000 for reverse dies (with 10,000 and 20,000 as lower and upper limits) naturally produces higher estimates than the 10,000 used by Metcalf for his 1981 estimates. The new estimates of currency size in table 36 represent a compromise over the existing 1158 mint-output estimates. Both sets of estimates are not in any way meant to be definitive, but they at least add to the debate on mint output, the size of the currency and monetisation.

Now that estimates of the size of the circulating currency have been generated, how monetised was the economy from the early tenth to the early twelfth centuries? Mayhew has cautiously shown how application of the Fisher equation can calculate indices of monetisation in the medieval and early modern periods. The Fisher equation is simply $MV = PT$, where $M$ equals the money supply or circulating currency, $V$ equals the income velocity, $P$ equals the average price of transactions involving money and $T$ equals the number of monetary transactions. Income velocity relates to the burden put on the coinage in circulation in order for it to complete the economic transactions required by the level of $PT$, and Mayhew argues that $PT$ can be approximately equated to GDP. Therefore, to calculate income velocity, or $V$, we must perform $V = PT/M$.[107]

It should be noted that Latimer has distinguished between income velocity and 'transactions velocity', which also uses the formula $MV = PT$.[108] Transactions velocity relates to the frequency with which transactions involving money are made. Latimer argues that $PT$ can be equated to modern GDP because there is a constant relationship

[107] Mayhew, 'Coinage and Money', 72–86; see also Mayhew, 'Modelling Medieval Monetisation', 55–56.
[108] Another form of velocity, 'physical velocity', is used in chapters 5 and 6. Physical velocity measures how far and how fast coins physically moved in circulation.

between the two (due to the large amount of money in use today). He then contends that for the medieval and early modern periods *PT* and GDP cannot be equated because of the large number of transactions which took place that did not involve money (such as barter, payments in kind and labour services). Although this is a valid point, Latimer agrees that the Fisher equation remains a useful gauge of monetisation for pre-modern periods.[109]

Section 4.1 of this chapter described the four current estimates of GDP in 1086 from Snooks, Mayhew (2) and Walker, alongside my own preferred estimate. It is therefore possible to calculate income velocity estimates using the GDP data for 1086 and the size of the circulating currency between 1066 and 1100 (table 37). To give them greater context, table 38 shows income velocity estimates for *c.* 1300, which is the next earliest date where estimates of GDP and currency-size exist.

**Table 37: the income velocity of the currency based on the estimated 1066–1100 currency-size figures and 1086 GDP estimates**

| **Currency-size estimates for 1066–1100** | **Snooks** (£136,621) | **Mayhew I** (£300,000) | **Mayhew II** (£400,000) | **Walker** (£500,936) | **(Fairbairn)** (£425,000)[110] |
|---|---|---|---|---|---|
| £7,500 (Low) | 18.2 | 40.0 | 53.3 | 66.8 | 56.7 |
| £20,000 (Med) | 6.8 | 15.0 | 20.0 | 25.0 | 21.3 |
| £35,000 (High) | 3.9 | 8.6 | 11.4 | 14.3 | 12.1 |

[109] P. Latimer, 'The English Inflation of 1180–1220 Reconsidered', *P&P*, 171 (2001) 3–29 at 23–24.

[110] On page 191 I gave my preferred estimate of GDP for 1086 as £400,000–£450,000. The figure in table 37 is the average of these two values. I have done this to generate a single income-velocity figure, because using upper and lower parameters here would produce unwieldly and slightly unhelpful estimates.

**Table 38: the income velocity of the currency in *c.* 1300 based on currency-size and GDP estimates**[111]

| **Currency-size estimates for *c.* 1300** | **Snooks** (£4,066,000) | **Mayhew** (£4,660,000) | **Broadberry *et al*** (£5,400,000) |
|---|---|---|---|
| £1,100,000 (Mayhew) | 3.7 | 4.2 | 4.9 |
| £1,250,000 (Allen) | 3.3 | 3.7 | 4.3 |

One point immediately noticeable from the two tables is the much higher figures for income velocity in 1086 as opposed to *c.* 1300. This may seem confusing since higher numbers might be thought to represent a higher level of monetisation. However, the income velocity of the currency, $V$, is governed by the amount of currency in circulation, $M$, in the formula $V = PT/M$. If $M$ is higher, the income velocity of the currency will be lower. In other words, the lower the number attributed to the income velocity of the currency the higher the degree of monetisation.

I would be cautious about giving too much credence to the lower £7,500 estimate of currency size in 1086 for the reasons outlined above (pages 229–31). I would therefore place greater faith in the figures related to the median and higher currency-size estimates of £20,000 and £35,000. For this reason, I would also discount Snook's GDP figure as being too low since if it is viable then England would appear to have been as monetised in 1086 as it was in *c.* 1300. This, I believe, would be stretching credibility. It is much more plausible to assign a value starting at 10 and rising to 20 to the income velocity of the currency in 1086, based upon the currency-size estimates of £20,000 and £35,000 and my preferred GDP estimate of £425,000.

[111] GDP figures are taken from Snooks, 'Dynamic Role', 50; for the Mayhew and Broadberry estimates see N. J. Mayhew, 'Prices in England, 1170–1750', *P&P*, 219, 1 (2013), 3–39 at 34. The currency-size figures for Mayhew and Allen are based on estimates for 1299, see Mayhew, 'Prices in England', 26. Allen's figure represents the median value of his £1,100,000–£1,400,000 estimate.

Mayhew has produced income-velocity estimates of 8.52 and 10.7 for 1086. The former figure was generated using one of Walker's earlier figures for GDP from his 'National Income in Domesday England' project, namely £426,000, and a currency-size estimate of £50,000.[112] The latter income-velocity estimate was generated using Mayhew's higher estimate of GDP in 1086 of £400,000 and Dolley's upper currency-size estimate for the *PAXS* type of £37,500 (see table 25).[113] These income-velocity estimates, coupled with my own, show how changes to the variables *PT* (or GDP) and *M* in the Fisher equation can generate quite different results. Nevertheless, Mayhew's figures are not very far off my income-velocity estimate of 12.1 using a GDP-figure of £425,000 and a currency-size estimate of £35,000 for 1066–1100. Furthermore, I have demonstrated that the size of the circulating currency from the tenth to the twelfth centuries could fluctuate markedly which emphasises the problems related to estimating currency size and income velocity. Perhaps the most important point is that both Mayhew's figures and my own demonstrate that income velocity was higher in 1086 than it was in *c.* 1300.

Expressed in another way, the volume of the circulating currency in 1086 represented approximately 5–10% of GDP whereas in *c.* 1300 the figure was more like 20–30%. However, I would not argue that coins were less important in the eleventh century than they were in the thirteenth. The discussion in chapter 3 contended that the population in late Anglo-Saxon and Norman England was used to handling money on a significant scale. It should be reaffirmed that cash acted alongside other forms of economic

[112] Mayhew, 'Prices in England', 26–27 and 37. The currency-size figure is the average of Martin Allen's earlier suggestion of the size of the circulating currency during the *PAXS* type of the mid-to-late 1080s, which he estimates may have been £30,000–£70,000. However, Allen cites uncertainties over this figure because estimates of the number of dies used to strike the *PAXS* type were not based on a comprehensive die-study of the type, see Allen, 'The Volume of the English Currency', 494.
[113] Mayhew, 'Modelling Medieval Monetisation', 72; 'Coinage and Money', 79.

transactions; it did not replace them, even after the increase in silver inflows after the 960s. The income velocity figure for 1086 sits well with the values and payments evidence from chapters 2 and 3 since it is clear that labour services and renders in kind were still practicable forms of payment and exchange throughout this period. Nonetheless, this does not necessarily mean that 90–95% of transactions were carried out in the form of labour or barter. Chapters 5 and 6 further demonstrate that coins moved very quickly and over long distances, showing high levels of demand and monetary use across England.

## 5. Analysis of the numismatic evidence: Single finds

This chapter will focus on single coin finds, which best represent casual losses in the economy. Through a number of important publications Michael Metcalf has demonstrated the importance of single-find evidence for deepening the understanding of monetary circulation and monetary use in the early English kingdom.[1] However, the corpus of single finds has grown substantially since Metcalf's last work. In 1998 Metcalf had 644 usable English single finds at his disposal relating to the period *c.* 973–1086; for the same period I have 1,793.[2] This thesis covers the years 924 to 1135, and I have been able to identify and analyse a total of 2,552 single finds. Drawing on this enlarged corpus, I propose to engage with Metcalf's analysis of coin use, to test his conclusions and pinpoint new trends. Chapters 2 and 3 contend that, although the value of a penny was higher in the period 924–1135 than it was during the thirteenth and fourteenth centuries, the value of the penny was not prohibitively high to preclude regular use by the peasantry. This chapter strengthens this argument.

It is often stated that single coin finds best represent casual losses of coin in circulation.[3] This is because it is considered easier to lose a single coin than it is to lose a group of coins. It is possible that single coin finds may have represented single-coin hoards; that

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[1] Metcalf, 'The Ranking of the Boroughs', 159–212; 'Continuity and Change in English Monetary History *c.* 973–1086', *BNJ*, 50 (1980), i, 20–49 and *BNJ*, 51 (1981), ii, 52–90; *An Atlas of Anglo-Saxon and Norman Coin Finds* (London, 1998). Immediately prior to the submission of this thesis, Rory Naismith published an article on late Anglo-Saxon and early Norman single coin finds: R. Naismith, 'The English Monetary Economy, *c.* 973–1100: the Contribution of Single-Finds', *EcHR*, 66 (2013), 198–225. This chapter takes account of the salient findings of this article, but does not engage with its argument to the same extent as those of Metcalf.

[2] Metcalf, *Atlas*, 18–19. Metcalf's total omits coin brooches, lead strikings, and foreign and counterfeit coins.

[3] For example, Metcalf, *Atlas*, 16; J. C. Moesgaard, 'The Import of English Coins to the Northern Lands: some remarks on coin circulation in the Viking Age based on new evidence from Denmark', *Coinage and History*, 389–433 at 418.

the owner of the penny had deliberately withdrawn it from circulation to save it or to secure it. Furthermore, not all single finds are likely to have lain undisturbed from the date they were lost; for example, they may once have been part of larger hoards which later became scattered by modern farming machinery. Nevertheless, taken as a whole the single find corpus best approximates to casual coin loss.

This is important since single finds are our best evidence for interpreting the nature of the currency in circulation, as opposed to hoards, which may have been more selectively compiled (see chapter 6). This chapter seeks to measure the physical velocity of the currency in circulation; that is to say how far and how fast coins travelled from their mints of origin. As stated elsewhere (pages 321–29), the coins in circulation were changed approximately every 6–7 years from *c.* 973 to 1035 and every 2–3 years from 1035 to about 1125 (Blackburn has persuasively argued that Henry I introduced a fixed type in 1125 which ran until his death in 1135).[4] These circulation periods are important since they help us to analyse the physical velocity at which coins travelled, though the duration of recoinages and the length of time which older coins remained in circulation are extra factors to consider.

## 5.1 How single finds are discovered and how this affects interpretation of the evidence

Coins in the form of single finds or hoards can be discovered in various ways. One method of discovery is simple chance. Such finds may represent the least statistically prejudicial method of discovery because there has been no deliberate act to find coins

[4] M. Blackburn, 'Coinage and Currency Under Henry I', *ANS,* 13 (1990), 49–81 at 64–76.

or artefacts; this cannot be said for the remaining means of discovery. However, chance finds represent a very small proportion of coins in my single-find dataset, which is discussed below.

A second means of discovery is through archaeological excavation. There have been a number of important urban excavations since the middle of the twentieth century, for example at St. Peter's Hill in London in 1981 which yielded 26 single finds. However, archaeological excavations have also occurred in rural areas. For example, at Goltho Hall in Lincolnshire a pre-reform Edgar penny was found in the tenth-century bower and a *Pointed Helmet* penny of Cnut was found in the eleventh-century kitchen. A third Cnut penny of *Short Cross* type was also discovered on the site.[5]

The final method of discovering single finds is from metal-detectoring, which accounts for most of the single finds in my dataset. Metal detectorists scan fields because ploughing brings new objects to the surface every year. They also scan the spoils from archaeological excavations, urban development projects and civil engineering work. For example, the London Billingsgate spoil yielded 36 coins in my dataset. Metal-detectoring has provided an ever expanding source of single finds since it became a popular pastime in the 1970s, and has transformed our understanding of the English economy and society during this period. Detectoring is also legal in Denmark and Moesgaard has

[5] G. Beresford, *Goltho: the Development of an Early Medieval Manor, c. 850–1150* (London, 1987), 120. The Edgar penny is EMC 1983.0014 and the Cnut penny is EMC 1983.0015.

noted a similarly dramatic increase in the number of single finds over the same period, which has also influenced views on the early medieval economy there.[6]

However, there are some problems with taking the single-find data from metal detectoring at face value. Metal detectoring success attracts other detectorists which can lead to a skewing of the evidence in favour of counties or regions which are deemed to be more profitable places to search.[7] Recently, Robbins has completed a thesis investigating the biases in the discovery and recording of archaeological finds by amateur enthusiasts using data from the Portable Antiquities Scheme and by taking Northamptonshire, Hampshire and the Isle of Wight as case studies.[8] She develops a collection-bias model based on the objects' deposition, preservation, survival, exposure, recovery, reporting and recording. Her results show that many modern human factors affect these patterns. Permission to search private land affects the spatial distribution of finds in some places, for example on the Isle of Wight where searching has often been limited to the east of the island. The strength of relationships between detectorists and PAS Finds Liaison Officers (FLO) contribute to the frequency at which finds are recorded. Specialist knowledge on the part of the detectorist can also shape find-spot patterns of coins, since in Northamptonshire the focus of activity has been towards areas of known Roman settlements. Geographical factors rather obviously play a part too. For example, in Hampshire the south of the county has been less intensively searched (perhaps due to the New Forest) whilst the North Wessex Downs have been,

[6] J. C. Moesgaard, 'The Import of English Coins to the Northern Lands', *Coinage and History*, 389–433 at 417–18.
[7] Metcalf, *Atlas*, 16.
[8] K. J. Robbins, 'From Past to Present: Understanding the Impact of Sampling Bias on the Distribution of Finds Recorded by the Portable Antiquities Scheme', unpublished Ph.D thesis (Southampton, 2012); Robbins has recently published an article on the subject, K. J. Robbins, 'Balancing the Scales: Exploring the Variable Effects of Collection Bias on Data Collected by the Portable Antiquities Scheme', *Landscapes*, 14 (2013), 54–72.

especially by metal-detectorists on rallies. Robbins' thesis is an important reminder that the link between the past use of objects lost or placed in the ground is in no way precisely mirrored by their modern-day recovery.

However, a recent article by Bevan tries to reconcile some of the difficulties in using data taken from large-scale artefact inventories and its application to historical research.[9] He suggests using regression models for more careful consideration of recovery effects, comparisons between artefact recovery and historical population distributions, and the use of risk surfaces (which, for example, analyse the collective compositions and volumes of hoards rather than just their find spots) to identify spatial patterns more clearly. Elements of these three methodologies will be used throughout chapters 5 and 6.

## 5.2 The current single-find dataset

In recent years, two online databases have appeared which have both broadened and simplified the collection of data on single finds. The first is the Portable Antiquities Scheme (PAS) which is run by the British Museum and was established in 1997 to assist the public in recording archaeological finds.[10] The second database is the Early Medieval Corpus (EMC) which is run by the Fitzwilliam Museum, Cambridge. This aims to publish online all single finds found in England between 410 and 1180, retro-entering old data and publishing new finds as they come in.[11] The EMC is the principal source of single-find data used in this thesis with 2,220 coins. Much of the EMC data is drawn

[9] A. Bevan, 'Spatial Methods for Analysing Large-Scale Artefact Inventories', *Antiquity*, 86 (2012), 492–506.
[10] www.finds.org.uk/
[11] http://www-cm.fitzmuseum.cam.ac.uk/emc/

from the PAS and there is a delay between the transfer of data from the latter to the former. Thus, the PAS database provides 262 coins for my dataset. The third and final source of single-find data has been the card index at the British Museum. This contains records of coins from both hoards and single finds, some of which have not yet been entered onto EMC. The card index has added 70 coins to my database.

The two online databases provide detailed information on single finds. The physical attributes of each coin are listed: the coin type, the issuing ruler, the name of the mint where it was struck and the moneyer who struck it, its weight and its state of preservation (for example whether it is damaged, altered, or whether it is a cut fraction). The find spot is given, usually in the form of the village or town and the county where it was found, along with a set of Ordinance Survey co-ordinates. Finally, other comments are recorded, such as the source of the find, its current repository and any other things of interest. The information is not always complete. For example, a cut farthing will be missing three quarters of the legend so it is sometimes impossible to tell the identity of the mint or the moneyer. Furthermore, metal detectorists sometimes do not divulge precise locations of find spots lest it attract other detectorists so occasionally only the county or the region is given.

The process of compiling this dataset was complicated by various factors. There were instances of coin duplication between the two online databases and the British Museum card index. I have checked and eliminated these to the best of my ability, and have preferred to keep those from the EMC in favour of those from the PAS and the British Museum card index. There are also several duplicate coins within the EMC database,

which I have eliminated. Some coins have been removed because they probably belonged to hoards. Other coins eliminated from my dataset include those which have been turned into jewellery (often in brooch or pendant form) and those associated with burials since they cannot be associated with random losses of currency in circulation. Lead and gold coins, Scandinavian imitations and coins discovered in Scotland, Ireland and on the Isle of Man have also been removed. The single finds used in this thesis are listed in Appendix G.

The number of recorded single finds for late Anglo-Saxon and Norman England ought to be set into context. Naismith has recently drawn attention to the number of recorded coins, known as *sceattas*, which circulated between *c.* 675 and 750. Until October 2010 there were 2,910 in the EMC and PAS databases compared with just 1,894 coins for the period *c.* 973–1100. In the intervening periods, the number of recorded single finds for the southern English kingdoms between 740–880 total 1,099 (with 1,437 Northumbrian *stycas* recorded for the same period), and between 880–*c.* 973 the number of recorded single finds across England dwindles to just 481.[12] The documentary evidence for the period 675–750 is far lighter than it is for *c.* 973–1100, so it is more difficult to analyse the nature and extent of the money economy for the former period. However, it is eminently possible that England had more coins in circulation from the late-seventh to the mid-eighth centuries than it had during the late-tenth and eleventh centuries.

[12] Naismith, 'The English Monetary Economy', 201–04. See also Sawyer, *Wealth*, 56–60.

## 5.3 A summary of Metcalf's observations and conclusions

Metcalf's work on single finds from the early English Kingdom registered a series of important observations and conclusions. These propositions are listed below and evaluated in the discussion that follows:

5.4 Metcalf acknowledged that coins were handled by everyone in society – 'rich and poor, farmers and merchants, officials and soldiers', and that agriculture generated the wealth that these coins were a part of.[13]

5.5 However, the fact that the single finds are consistently found at long distances from their mints of origin suggests that this agrarian wealth did not simply manifest itself in local circulation patterns between farms and their market towns.[14]

5.6 The collection and dispersion of royal income from taxation, the exploitation of the royal demesne and other income streams may help to explain the wide diffusion of coins, since the royal demesne was widely scattered throughout the kingdom, and the king's household was itinerant (though based mostly south of the Thames).[15]

5.7 The major factor, however, was trade. The importance of trade is suggested by various considerations:

5.7.1 The proportion of non-local coins is relatively uniform throughout much of England and did not respond to political factors, such as the Danish attacks upon England between 991 and 1016 or the Norman Conquest of 1066.[16]

[13] Metcalf, *Atlas*, xiii; 'Ranking of the Boroughs', 165.
[14] Metcalf, 'Continuity and Change', i, 27–29; *Atlas*, 42.
[15] Metcalf, 'Continuity and Change', i, 23–24; *Atlas*, 42 and 279.
[16] Metcalf, 'Continuity and Change', i, 24.

5.7.2 The vast majority of the silver required for the English coinage appears to have come from abroad, which in itself alludes to overseas trade. The bullion stock further needed to be replenished with large inflows to balance the large outflows resulting, *inter alia*, from large-scale tribute payments.[17]

5.7.3 The most important mints (ranked by output) were large, east-facing riverine and coastal towns.[18]

5.7.4 The geographic distribution of single finds also has a broad south-eastern and coastal bias.[19]

## 5.4 Coins were handled by everyone in society – 'rich and poor, farmers and merchants, officials and soldiers'.

Metcalf elucidates this point further as follows:

The same coins were used by all sorts and conditions of men–rich and poor, farmers and merchants, officials and soldiers. As they passed from hand to hand, they were used for many kinds of transaction–the buying and selling of land, of beasts, of grain, the payment of tolls and gelds, the purchase of luxury items, gifts, alms. It lies in the nature of a region's or of a country's money economy that the coinage sums up and automatically strikes a balance at the end of the day, which takes account of all these transactions.[20]

It is clear, therefore, that Metcalf envisages coin penetrating the lives of a wide and diverse spectrum of English society. He also notes that 'the creation of wealth rested

[17] Metcalf, 'Ranking', 171 and 193; 'Continuity and Change', i, 21; *Atlas*, 7 and 28–29.
[18] Metcalf, 'Ranking', 159–60; 'Continuity and Change', i, 33–34; *Atlas*, 19.
[19] Metcalf, *Atlas*, 15 and 278–79.
[20] Ibid., xiii–xiv.

upon agriculture; and agricultural wealth and the monetary sector showed a considerable overlap' and that 'a money economy may have been as widespread through the countryside in Æthelred [II]'s time as it is now'.[21]

## 5.5 The physical velocity of the coinage

### 5.5.1 Local and non-local circulation patterns and inter-regional flows

The following passage epitomises Metcalf's position here:

> If farmers travelled ten or fifteen miles to their local market-town (with its mint) to buy and sell produce, *and if that were the sole use of coinage*, the resulting pattern of stray losses would consist simply of coins from the local mint. However numerous the transactions, the end-results would be the same. The pattern we observe is very different. Half the finds or more are not from the local mint, and some of the coins have been carried over long distances before being lost. *As well as* for local trade, therefore, it seems that coins were being used in other ways.[22]

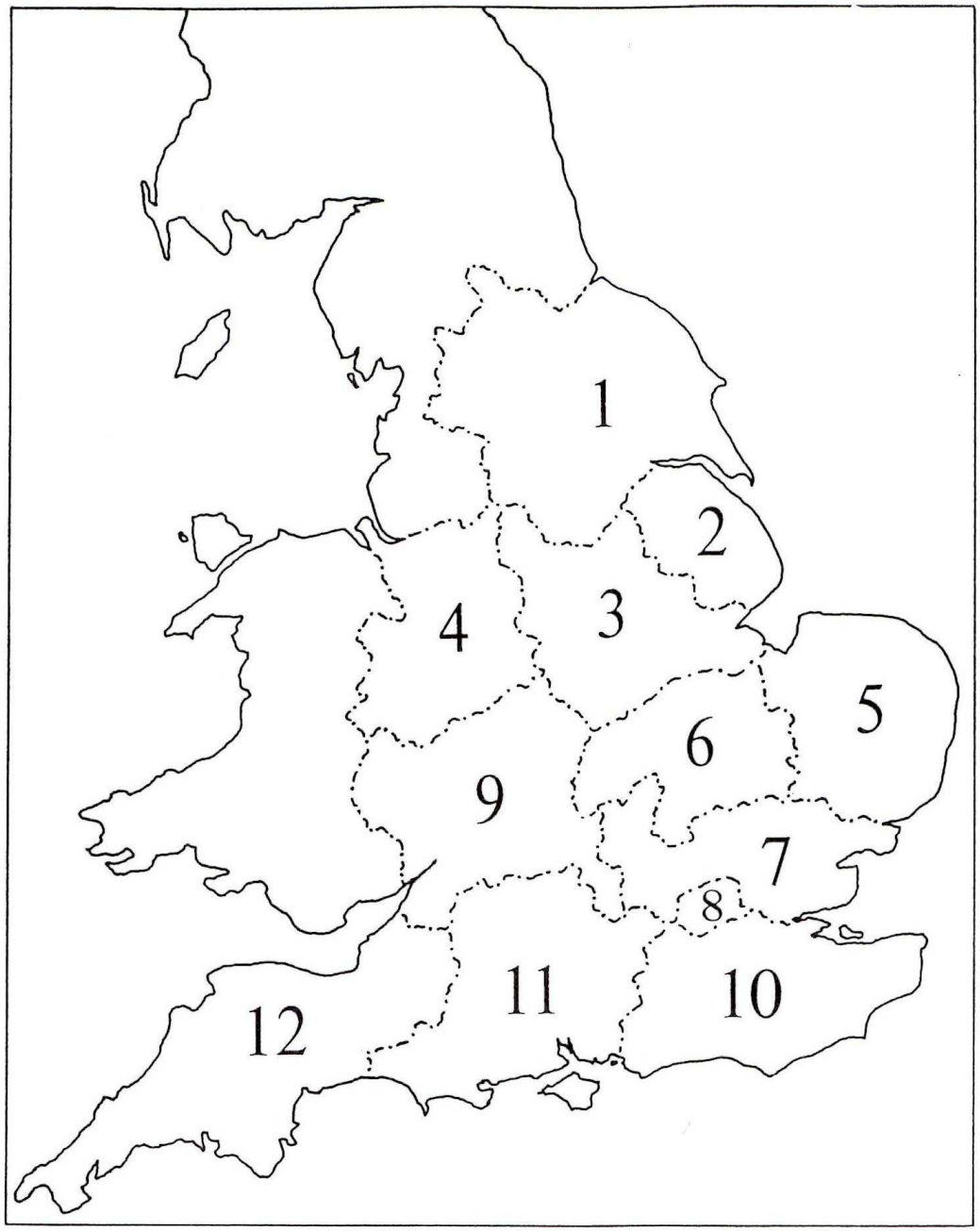
Metcalf first addressed this issue with a study of 50 mint-attributable single finds from the reign of King Æthelred II. He analysed the find spot of each coin to determine whether it was struck at the nearest mint (local) or at one more distant (non-local). Here, 32 out of the 50, or 64%, were from non-local mints. Metcalf also noted that amongst the non-local finds were a high proportion of coins from the major mints of London, Winchester, Canterbury, Lincoln and York.[23] In 1980, when Metcalf extended the upper limit of his research from 1016 to 1086, the results were very similar.

[21] Metcalf, 'Ranking of the Boroughs', 165.
[22] Metcalf, *Atlas*, 42. The italics are Metcalf's.
[23] Metcalf, 'Ranking of the Boroughs', 170–71.

Pursuing the same methodology, the 270 single finds in the new corpus showed that 68% were non-local.[24] So significant were these statistics that Campbell cited them when discussing central control of the coinage in the late Anglo-Saxon state and the consequent economic interconnection of different regions within England.[25] Later in his *Atlas*, Metcalf took this non-local coin percentage analysis on a slightly different tangent. He split England up into twelve regions based on their Danelaw, Mercian and West-Saxon political and administrative backgrounds:[26]

[24] Metcalf, 'Continuity and Change', i, 23.
[25] Campbell, 'Was it Infancy in England?', 181.
[26] Metcalf, *Atlas*, 276. The full discussion of this takes place between 191 and 248. Metcalf retains zones 1–3 and 5–7 when he discusses monetary circulation in the Danelaw in D. M. Metcalf, 'Monetary Circulation in the Danelaw, 973–1083', in S. Keynes and A. P. Smyth (eds.), *Anglo-Saxons: Studies Presented to Cyril Hart* (Dublin, 2006), 159–85.

**Figure 2: Metcalf's regional map for performing analyses of monetary circulation *c.* 973–1086**[27]




Rather than analysing whether a single find was local to the nearest mint, 'local' was now defined as local to the region. For example, a coin struck at Norwich would still be considered local even if it were found closer to Ipswich as both mints were in zone 5, representing East Anglia. The results of this analysis are given below:

[27] Metcalf, *Atlas*, 192.

**Table 39: Metcalf's analysis of locally-minted coins, *c.* 973–1086**[28]

| Region | Total no. of coin finds | Proportion of local coin finds |
|---|---|---|
| Yorkshire | 31 | 75–85% |
| Lindsey | 65 | *c.* 50% |
| The Five Boroughs *(Notts, Derbys, Leics, Kesteven, Holland)* | 22 | 15–20% |
| North West England *(Cheshire, Shropshire, Staffs, Rhuddlan)* | 27 | 50–60% |
| East Anglia *(Norfolk, Suffolk)* | 111 | *c.* 35% |
| Middle Danelaw *(Beds, Cambs, Hunts, Northants)* | 35 | 10–15% |
| Southern Danelaw *(Essex, Herts, Bucks)* | 21 | 5–10% |
| London and environs | 61 | 35–50% |
| South Mercia *(Gloucs, Herefs, Oxon, Warks, Worcs, S. Wales)* | 43 | *c.* 25% |
| Kent, Surrey, Sussex | 78 | 30–40% |
| Wessex *(Berks, Hants, Wilts, Dorset)* | 91 | *c.* 40% |
| South West England *(Somerset, Devon, Cornwall)* | 18 | 30–40% |
| Total | 603 | *c.* 35% |

If one takes an average of all these proportions the national percentage for locally discovered single finds is about 35%. In other words, roughly 65% of coins were non-local to each region: a result which supports Metcalf's earlier calculations on non-local single finds. He therefore concluded that rapid circulation of coinage was a permanent feature of the late Anglo-Saxon and early Norman economy.

The preceding regional framework was not, however, the only one put forward by Metcalf in 1998. In question 17 of 39 in his *Atlas*, Metcalf employed a technique called regression analysis in order to suggest a different regional framework for monetary circulation. He took the seven mints of London, Winchester, Thetford, Norwich, Canterbury, Lincoln and York, drew concentric 25km rings around them and calculated

[28] Ibid., 277.

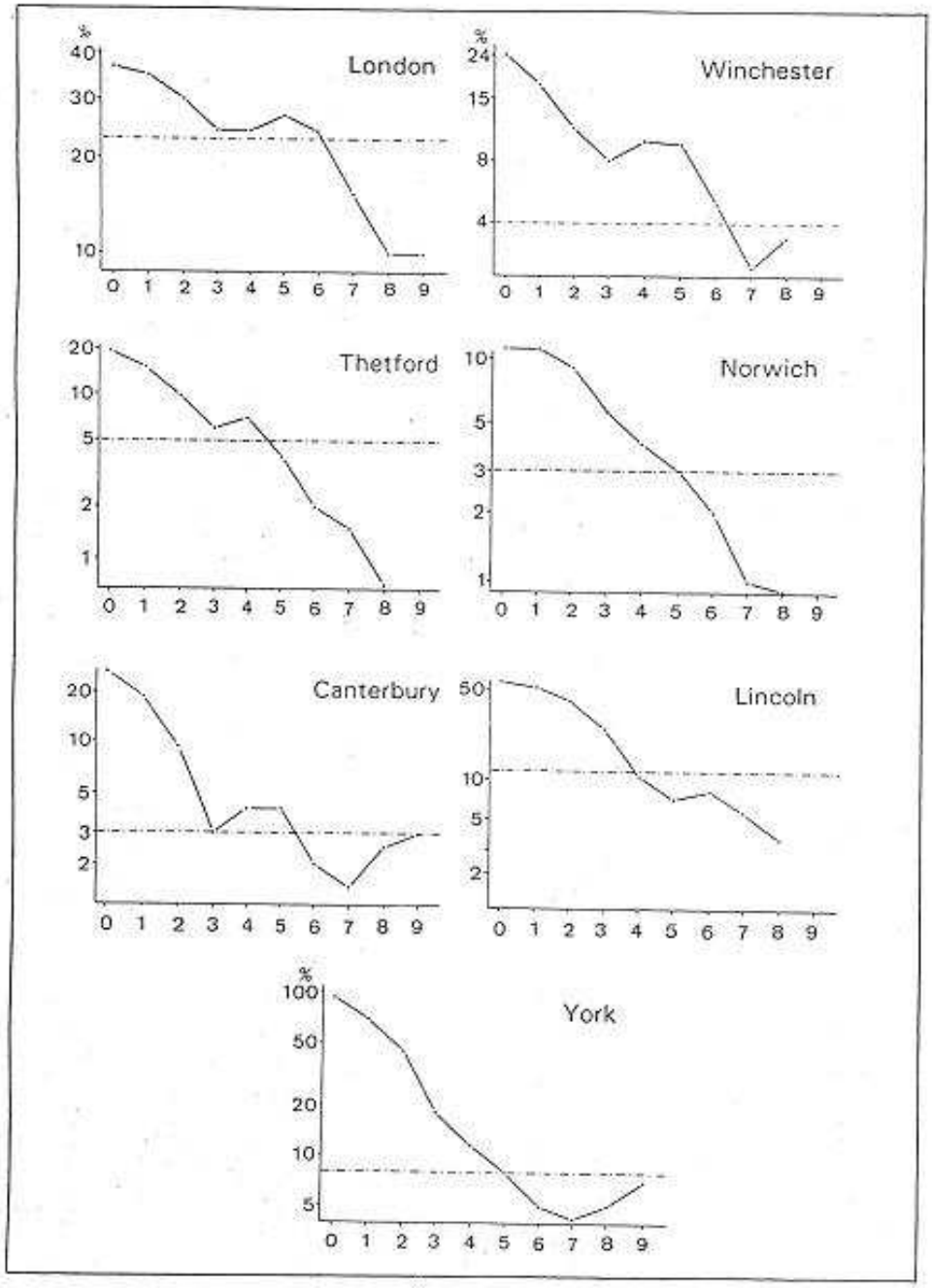
the percentage of coins which had been struck at each mint. He then plotted these findings on regression profile graphs, and came to the conclusion that the patterns produced were all fairly similar (fig. 3). Each mint had a 'zone of maximum influence in its immediately adjoining area' and each also showed a steady decline in the percentage of single finds up to 75km, which Metcalf argued reflected the 'regional function' of each mint. Metcalf saw the irregular bumps on the graphs as potential statistical blips given the small sample sizes.[29] Metcalf stated:

> The broad picture, then, is that the country can be divided into seven zones of monetary circulation, namely 1, the Thames Valley and the Midlands, dominated by London, 2, East Anglia, 3, Wessex, 4, the South-West, 5, Kent and the Channel coasts, 6, Lincolnshire, 7, Yorkshire. This is the regional framework for English monetary history. Doubtless it has implications for our understanding of coinage, and for the influence of the money economy on the political process.[30]

To this picture Metcalf added that circulation was substantially localised in all the zones, except that London coins penetrated zones 2, 3 and 4 freely. However, when it came to analysing the circulation patterns more deeply he chose to ignore this framework in favour of the twelve regions in fig. 2 due to their Danish, Mercian and West-Saxon backgrounds and because there were questions regarding minting and coin use in shire-based circumstances.

[29] Metcalf, *Atlas*, 45–47.
[30] Ibid., 46.

**Figure 3: Metcalf's percentages of the single finds struck at London, Winchester, Thetford, Norwich, Canterbury, Lincoln and York at successive 25-km distances from each mint**[31]




[31] Ibid., 47.

#### *5.5.1.1 Discussion and evaluation*

To test Metcalf's conclusions I have replicated the same regional analysis as was undertaken in his *Atlas* with the new, enlarged dataset. I have analysed the periods *c.* 973–1086 and 924–1135 (see table 40). It should be noted that when Metcalf's *Atlas* was published in 1998 he believed that the *Paxs* type ran from *c.* 1083–6 which would make it the Conqueror's final type.[32] This attribution has become increasingly challenged to the point that *Paxs* is now more generally considered to have been the first type of King William II, running from *c.* 1087 to the late 1080s.[33] However, for the purposes of direct comparison with Metcalf's work I shall continue to use his dating of *Paxs* to *c.* 1083–86. The lower parameter of the proportion of local finds is calculated by dividing the number of locally struck coins by the total number of coins discovered in the region. The upper parameter is calculated by adding together the total number of locally struck coins and the total number of non-mint-attributable coins and dividing this figure by the total number of coins discovered in the region.

Many of the revised proportions of local coins are very similar to those of Metcalf, if a little wider in their estimates, which strengthens his original hypothesis that many coins travelled much further than their local mints. This is true for both the *c.* 973–1086 and the 924–1135 periods. The parameters of the proportions of local coin are slightly wider for the 924–1135 period, but this can be partly explained by the lack of mint signatures on most of the coins of the period before Edgar's reform. It can also be explained in relation to the decline in importance of some of the major mints. For example, of the 24 coins found in Yorkshire minted between 1086 and 1135 just 2 (8.3%) were struck at

[32] Metcalf, *Atlas*, 188.

[33] For the most recent comments on this see M. Allen, 'Mints and Money in Norman England', *ANS*, 34 (2012), 1–21 at 1–4; see also M. M. Archibald, 'Coins', in *English Romanesque Art 1066–1200: Hayward Gallery, London, 5 April–8 July 1984* (London, 1984), 320–41 at 328.

York, which is in contrast to the proportion of coins found in the county during the tenth and eleventh centuries when Scandinavian settlements and North Sea trade contributed to the output of the York mint. Allen argues that York and its mint were severely disrupted by the northern rebellions and the harrying of the north between 1068 and 1070 since the number of York moneyers striking coin between the *Bonnet* type (conventionally dated to *c.* 1068–70) and *Canopy* (conventionally dated to *c.* 1070–72) fell from 11 to 1.[34]

**Table 40: updated proportions of locally-minted coins, *c.* 973–1086 and 924–1135**

| *Region* | *c. 973–1086* | | *924–1135* | |
|---|---|---|---|---|
| | *Total no. of coin finds* | *Proportion of local coin finds* | *Total no. of coin finds* | *Proportion of local coin finds* |
| Yorkshire | 103 | 60–70% | 141 | 50–65% |
| Lindsey | 180 | 35–65% | 240 | 30–60% |
| The Five Boroughs | 89 | 10–30% | 113 | 10–35% |
| North West England | 43 | 30–45% | 49 | 25–50% |
| East Anglia | 436 | 25–45% | 631 | 25–55% |
| Middle Danelaw | 154 | 10–30% | 226 | 10–35% |
| Southern Danelaw | 94 | 5–20% | 146 | 5–25% |
| London and environs | 90 | 25–55% | 155 | 20–60% |
| South Mercia | 105 | 15–35% | 147 | 10–40% |
| Kent, Surrey, Sussex | 187 | 30–45% | 253 | 30–50% |
| Wessex | 226 | 30–50% | 309 | 30–55% |
| South West England | 28 | 30–45% | 41 | 15–40% |
| Totals[35] | 1,737 | *c.* 35% | 2,451 | *c.* 35% |

There are, however, a couple of observations regarding the north of England which the enlarged dataset reveals. Firstly, the proportion of local coins from Yorkshire and the North West is lower in my database than in Metcalf's. His Yorkshire sample contained

[34] Allen, 'Mints and Money in Norman England', 4.

[35] The totals do not match the dataset totals because it was not possible to use every coin in this analysis. For example, coins with a find spot of 'Lincolnshire' have been omitted since this regional analysis divides Lincolnshire between Lindsey and the Five Boroughs, so it is impossible to know where such coins were originally found.

31 coins, but because of the high concentration of locally struck finds he deemed it conclusive of Yorkshire's position. However, any coin added to a sample of 31 alters the percentage totals by 3% which is a significant swing. Secondly, Metcalf argued that 'the use of money in the countryside [in the North-West] was on a modest scale'.[36] His view stemmed from the fact that 19 of the 27 coins in his sample were found at Meols, possibly the port of entry for Chester but perhaps an illicit Norse marketplace established to avoid paying toll.[37] However, 16 of the 23 new coins in the current sample were found in more rural settings, such as at Knockin, Shropshire, where a *First Hand* type of Æthelred II was discovered.

Further, and more significantly, my analysis has led me to conclude that this regional framework is an unsatisfactory way of analysing the movement of coin. It is reasonable to explore the possibility of regional patterns, but the results of this particular approach have proved to be inconclusive. Metcalf's division of England into three general zones based on their Danelaw, Mercian and West-Saxon political backgrounds appears to have been influenced by Norman writers, and the subdivisions inspired by more recent works, such as Hart's study of the Danelaw.[38] However, it is unlikely that these regions had any significant bearing on coin circulation patterns given that two key determinants of monetary movement were royal and commercial, both of which would move coin across these boundaries.

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[36] Metcalf, *Atlas*, 208.
[37] Ibid., 207; D. Griffiths, R. A. Philpott and G. Egan, *Meols: The Archaeology of the North Wirral Coast* (Oxford, 2007), 406.
[38] Symeon of Durham, *Opera Omnia*, ed. T. Arnold (London, 1882–5), ii, 393; *LHP*, 6.2 and 9.10–11; Hart, *Danelaw* (London, 1992), 3–24; Metcalf, *Atlas*, 198, 216, 220.

Other regions appear to be more arbitrary creations. For example, Somerset was historically part of the West-Saxon heartland so it may have been more useful to include it with Wessex (region 11), whose currency circulation patterns it resembles more closely, than with Devon and Cornwall (region 12).[39] Finally, coins struck at any mint located near a border could be classed as 'non-local' even if discovered relatively nearby. For example, if a coin struck in Wallingford (region 11) were dropped 2km away over the border in Oxfordshire (region 9) then it would be classed as a 'non-local' find. Conversely, if the same coin was discovered over 100km away in Dorset it would be classed as a 'local' find.

#### *5.5.1.2 Other zones of monetary circulation*

Metcalf did not analyse his seven-zone framework with regards to inter-regional coin flow (see pages 249–50).[40] However, I shall do so in order to test whether it yields any different, and potentially more revealing, results compared with the previous twelve-zone structure. I have continued to analyse whether or not the find spots of the coins were local to the region in which they were struck. The total mean proportion of locally-struck coin across the regions is *c.* 45%. Therefore, this model continues to demonstrate that none of the separate regions work as meaningful zones of self-contained circulation and, as such, are inconclusive indicators of the physical velocity of currency in circulation.

[39] Dolley and Metcalf, 'Reform', 150–51.
[40] Metcalf, *Atlas*, 46.

**Table 41: analysis of Metcalf's seven-zone regional structure**

| | *c. 973–1086* | | *924–1135* | |
|---|---|---|---|---|
| *Region* | *Total no. of coin finds* | *Proportion of local coin finds* | *Total no. of coin finds* | *Proportion of local coin finds* |
| London and the Midlands *(Beds, Bucks, Cheshire, Derbys, Gloucs, Herefs, Herts, Leics, Middx, Northants, Notts, Oxon, Salop, Staffs, Warks, Worcs, Wales)* | 391 | 35–60% | 550 | 35–65% |
| East Anglia *(Cambs, Essex, Norfolk, Suffolk)* | 599 | 25–45% | 875 | 25–55% |
| Wessex *(Berks, Dorset, Hants, Wilts, IoW)* | 226 | 30–50% | 309 | 30–55% |
| The South West *(Cornwall, Devon, Somerset)* | 28 | 30–45% | 41 | 15–40% |
| Kent and the Channel Coast *(Kent, Surrey, Sussex)* | 187 | 30–45% | 253 | 30–50% |
| Lincolnshire | 230 | 40–70% | 308 | 35–65% |
| Yorkshire | 103 | 60–70% | 141 | 50–65% |
| Totals[41] | 1,748 | *c.* 45% | 2,477 | *c.* 45% |

Naismith has also analysed circulation patterns using a regional framework consisting of the following zones: the Danelaw, East Anglia, east Wessex, Lincolnshire, London, north Mercia, Northumbria, the South East, south Mercia and western Wessex. These are based upon 'significant divisions' of eleventh-century England.[42] His single-find dataset comprises coins registered on the EMC and PAS databases until October 2010.[43] The percentages of single finds in each zone produced by mints local to those zones are broadly between 10% and 60%, which is similar to Metcalf's totals. The

[41] The totals do not match the dataset totals because it was not possible to use every coin in this analysis. For example, coins with a find spot of 'Lincolnshire' have been omitted since this regional analysis divides Lincolnshire between Lindsey and the Five Boroughs, so it is impossible to know where such coins were originally found.
[42] Naismith, 'The English Monetary Economy', 212.
[43] Ibid., 200.

highest percentage is 62%, which comes from the Northumbria region for the period 1016–66.[44] Naismith also analyses the total numbers of single finds struck within each region and calculates the percentage of those single finds which remained within each region. He reveals that in East Anglia between 69% and 91% of single finds struck between *c.* 973 and 1100 remained within Norfolk and Suffolk. However, the results for the remaining regions show that between just 10% and 60% of single finds stayed within their regions of production.[45] Regional frameworks can be misleading and offer less insight into the movement of coin than Metcalf's other work which calculated single-find dispersion patterns as the crow flies.

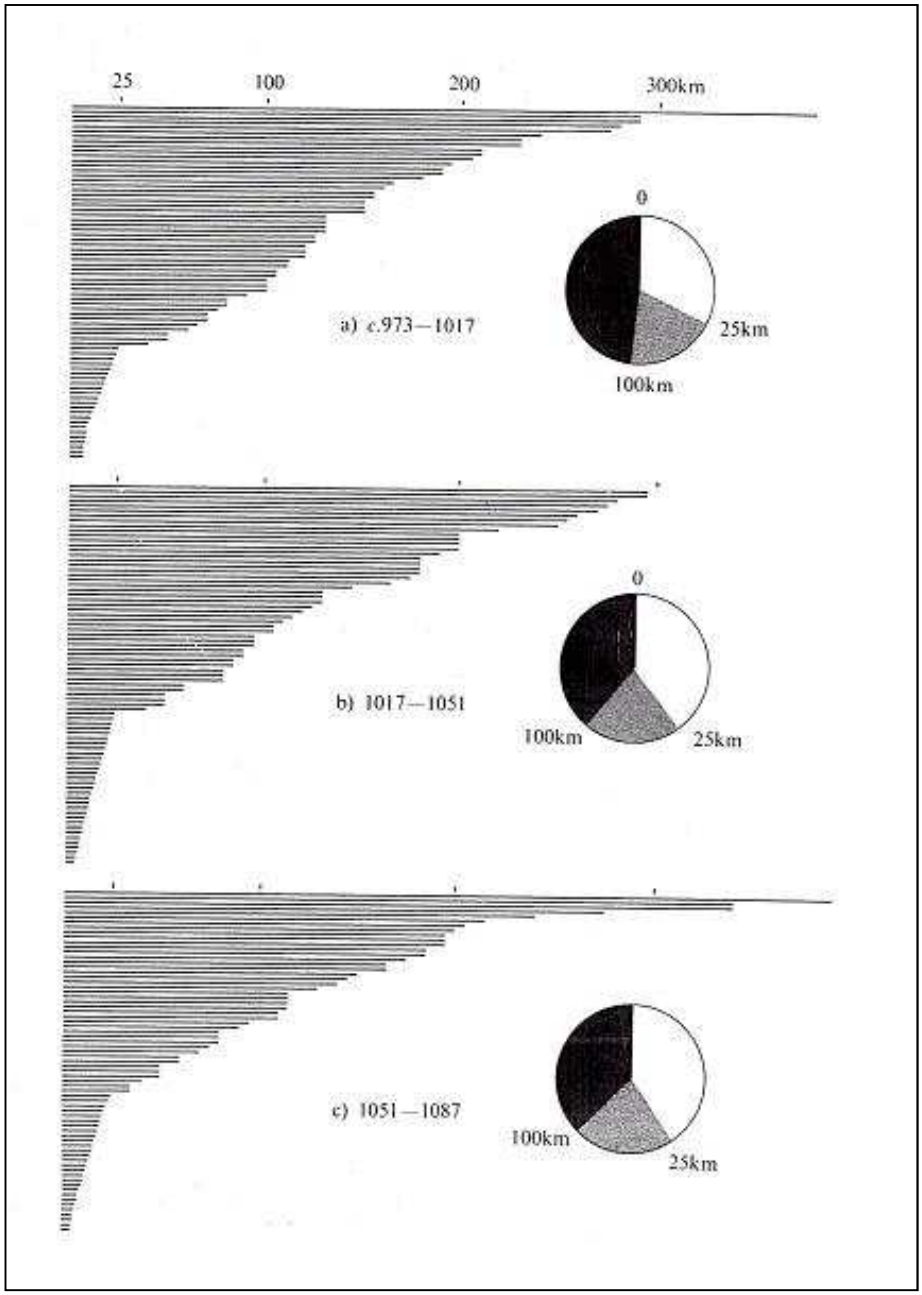
### 5.5.2 Distance from mint as a crow flies

#### *5.5.2.1 Metcalf's hypothesis*

Marion Archibald suggested to Metcalf in 1980 that many of the single finds he had classified as non-local with respect to their mints were actually from a nearby mint, thus suggesting the possibility that his analysis was distorting or misinterpreting regional patterns of circulation.[46] Metcalf dealt with this point by constructing bar-charts which showed the distance of single finds from their mints of origin (fig. 4). He separated his corpus of single finds into the periods *c.* 973–1017, 1017–1051 and 1051–1086. The first period sees a larger proportion of coin travelling longer distances. However, this may have been expected given that the circulation periods for each type were approximately 6–7 years compared with the 2–3 years after 1035.

[44] Ibid., 215.
[45] Ibid., 216.
[46] Metcalf does not give a reference for Archibald's contention. It was, perhaps, a personal comment.

**Figure 4: Metcalf's distance from mint bar-charts**[47]




Metcalf further analysed the single finds by dividing them up into three zones of distances. The first was 0–25km – inspired by Dolley and Metcalf's suggestion that this was a day's journey for the average farmer.[48] The other two zones were 25–100km and 100+km. By counting the number of coins in each zone for the entire period *c.* 973–1086 it has been possible to calculate more accurate percentages:

[47] Ibid., 29
[48] Dolley and Metcalf, 'Reform', 148–49.

**Table 42: Metcalf's distance-from-mint percentages *c.* 973–1086 at 0–25km, 25–100km and 100+km[49]**

| Zone | No. of coins | Percentage of coins |
|---|---|---|
| 0–25km | 82 | 37.6% |
| 25–100km | 47 | 21.6% |
| 100+km | 89 | 40.8% |

For Metcalf, the picture created by the bar-charts and the pie-charts showed that there was no regional 'bar' to the circulation of coin and that long distance movement of coin continued to exert a large influence on the diffusion patterns.[50]

#### *5.5.2.2 Discussion and evaluation*

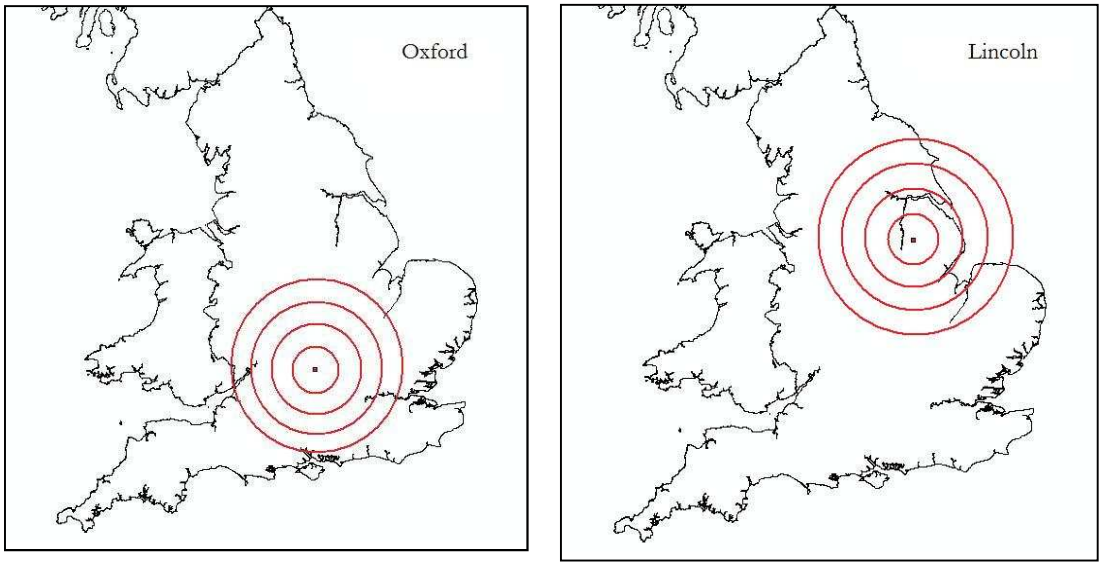
Distance-from-mint analysis affords clearer conclusions regarding the physical velocity of the coinage than inter-regional flows as there is no awkward regional structure to constrain or distort the results. It has been possible to compile this distance-from-mint data by using Geographic Information Software (GIS) from ESRI called ArcMap. The Ordinance Survey co-ordinates supplied by the EMC and PAS databases were not compatible with this software so I had to obtain six-figure eastings and northings for the find spots for each single find, together with a precise location and for every mint.[51] These new co-ordinates were entered into the software to produce a national map showing the locations of the single finds and mints. I then used the ArcMap measurement tool to calculate the distances in kilometres as the crow flies between each single find and their mint of origin. These distances were then categorised into zones

[49] Metcalf, 'Continuity and Change', i, 29.
[50] Metcalf, 'Continuity and Change', i, 27–29.
[51] http://gridreferencefinder.com/# was the website used to acquire the requisite co-ordinates.

radiating outwards from the mint at distances of 25 kilometres to make direct comparisons with Metcalf's data. In total, there are 1,303 mint-attributable single finds with precise find spots for the period *c.* 973–1086 and 1,678 for the period 924–1135.

What does this analysis reveal? Figure 5 shows the mints of Oxford and Lincoln, and what 25, 50, 75 and 100 kilometres from the mint looks like. These distances have been chosen as they fit into the distance-from-mint framework laid out in Appendix D, tables D.1 and D.2. For Oxford 25 kilometres covers most of the county plus parts of Berkshire and Buckinghamshire while for Lincoln 25 kilometres encompasses the borough's hinterland in that county plus part of eastern Nottinghamshire. For Oxford, 100 kilometres reaches Wales and the south coast while for Lincoln it reaches Cheshire and Norfolk at this distance. However, we can only measure the physical distance of a coin from its mint, not how far that coin actually *travelled* during its lifetime. For example, a coin could have moved through every shire in the country by land and sea before being lost or it may have been dropped soon after it left the mint.

**Figure 5: Oxford and Lincoln: distance-from-mint charts showing zones at 25, 50, 75 and 100 km from the mint**




The first distance-from-mint analysis presented here will be chronologically arranged. This makes it possible to identify whether there were any noticeable changes to the distances in which coins travelled over time. Single finds for the period *c.* 973–1086 are also sub-totalled to facilitate direct comparison with Metcalf's distance-from-mint conclusions. The number of coins in each twenty-five kilometre zone is given along with the percentage of the total sample that this figure represents. The information, displayed in Appendix D, table D.1, is based reign by reign as opposed to type by type. This approach offers the chance to see potential pattern differences between longer and shorter reigning monarchs. However, 924–*c.* 973 is treated as one period due to the very low number of mint-attributable coins per monarch in the sample.

Just under 1 in 3 single finds is found within 50 kilometres of its mint (32.0% for the period *c.* 973–1086 and 31.3% for the period 924–1135). Within that figure the 0–25 kilometre bracket, i.e. the one closest to the mint, tends to be the most populated for

each reign. However, simple probability would predict that many coins would be found in this zone because this is where they were struck and, therefore, they would have to travel through it. The distribution patterns for the shorter reigning monarchs are a little more erratic than those for longer. This may well be down to smaller sample sizes as the chance for statistical variation is much higher under these circumstances. There is no conclusive proof that longer reigns affected the distance at which single finds have been discovered, nor is there clear evidence that longer validity periods before 1035 affected distances either.

Metcalf's 1980 bar charts demonstrated a similarly high proportion of single finds close to the mints though he chose to emphasise the long-distance nature of the remaining single finds.[52] A comparison of Metcalf's analysis with my own is given:

**Table 43: comparison of Metcalf's distance-from-mint analysis with my own**

| Zone | Metcalf *c.* 973–1086 | | Fairbairn *c.* 973–1086 | | Fairbairn 924–1135 | |
|---|---|---|---|---|---|---|
| | No. of coins | % of coins | No. of coins | % of coins | No. of coins | % of coins |
| 0–25km | 82 | 37.6% | 243 | 18.7% | 306 | 18.2% |
| 25–100km | 47 | 21.6% | 494 | 37.9% | 642 | 38.3% |
| 100+km | 89 | 40.8% | 566 | 43.4% | 730 | 43.5% |

The percentages of coins in the 0–25km and 25–100km zones have been almost entirely reversed. Many of the single finds which Metcalf used were discovered as a result of urban archaeological excavations.[53] However, metal detectoring has dramatically

[52] Metcalf, 'Continuity and Change', i, 27–29.
[53] Ibid., 36–46.

increased the number of recorded single finds from non-urban settings. It is this, I believe, which accounts for the increased proportion of single finds in the 25–100km zone in my own analysis. Both of my sets of statistics continue to suggest that coin travelled over long distances and that there were no barriers opposing the free movement of coin.

It is also worth considering particular mints using distance-from mint analysis. For example, Metcalf has previously drawn attention to Winchester and its potential administrative influence on its single-find distribution.[54] Appendix D, table D.2 shows a summary of the top ten most productive mints, ranked in order of output, plus ten less prolific mints for comparison. The data used in this table relates to the period 924–1135 since I am not seeking to compare it to Metcalf's earlier work. It should be noted that many minor mints, including those towards the bottom of table D.2, did not exist for the duration of this period and did not always strike every coin type after they had been opened. This partially explains why some mints struck fewer coins than others.

The total pattern of single finds in Appendix D, table D.1 is broadly similar to that of the total chronological pattern in table D.2. However, there remain significant differences between the modal values for each mint. London's modal value lies between 100–125km. Conversely, Thetford's modal value overwhelmingly lies in the zone closest to the mint. Chester's single finds lie in clusters both near to and far from the mint. What do these patterns look like in reality and what explains them?

[54] Metcalf, *Atlas*, 49 and 279.

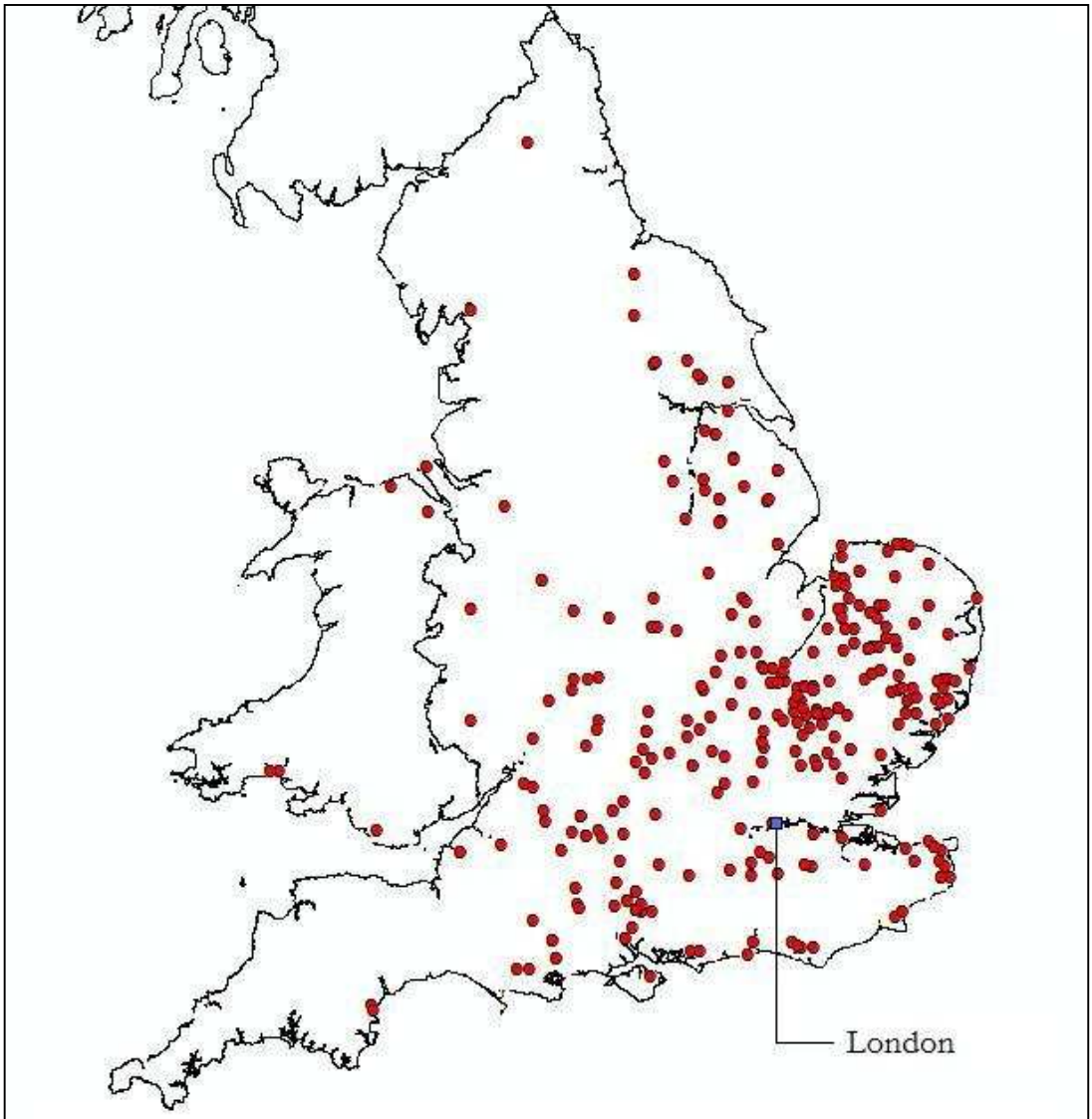
5.5.2.2.1 Single finds from the London mint

London-struck coins are found the most widely over England, dominating the south, the middle and the east of the country. *Londinium* had been a great emporium in Roman times and in the early Anglo-Saxon period London's commercial centre shifted westwards up the Thames to *Lundenwic*. Its continuing trade links caused Bede to remark that London was 'an emporium for many nations who come to it by land and sea'.[55] London remained England's main conduit for foreign bullion during this period because it was the chief centre for international trade.

London's single-find sample size is the largest at 374. The first zone is populated with 36 finds (9.6%), but the majority of the London finds lie between 75 and 125 kilometres away, with 74 coins in the modal zone of 100–125 kilometres. Of these coins, 64% are found in eastern Kent, along the Sussex coastline, Cambridgeshire but especially in Norfolk and Suffolk – areas of dense population settlement. Britnell and Campbell have drawn attention to the fact that demand from thirteenth-century London affected what was produced in much of south-eastern England.[56] If this was also the case with eleventh-century London then it is possible that crops and livestock were taken to the city from this wide hinterland, either for provisions or for sale abroad, and were exchanged for coins which were then carried back and which entered the local, rural economy.

[55] Bede, *Ecclesiastical History of the English People*, eds. B. Colgrave and R. A. B. Mynors (London, 1992), 142–43; see also D. Keene, 'London from the Post-Roman Period to 1300', in *Cambridge Urban History*, 187–216.
[56] Britnell, 'Commercialisation and economic development', 14–15; B. M. S. Campbell, 'Measuring the commercialisation of seigneurial agriculture *c.* 1300', in *A Commercialising Economy*, 132–193 at 136–39.

**Figure 6: distribution of single finds from the London mint, 924–1135**




| Distance | 0–25 | 25–50 | 50–75 | 75–100 | 100–125 | 125–150 | 150–175 | 175–200 | 200+ |
|---|---|---|---|---|---|---|---|---|---|
| Number | 36 | 21 | 44 | 70 | 74 | 49 | 22 | 23 | 35 |
| Percentage | *9.6* | *5.6* | *11.8* | *18.7* | *19.8* | *13.1* | *5.9* | *6.1* | *9.4* |

5.5.2.2.2 Single finds from the York mint

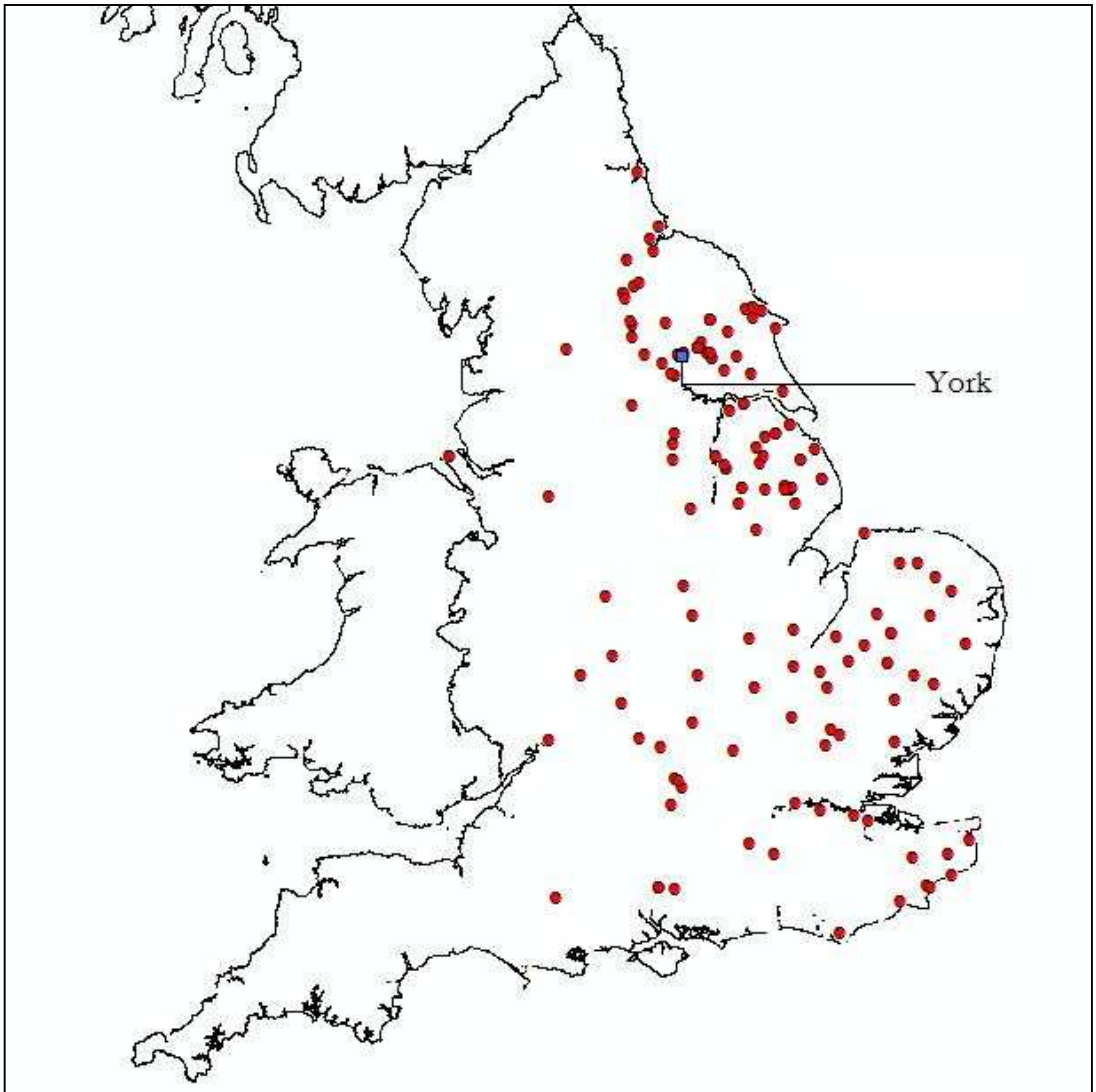
York was the largest town in the north of England, the political centre of both the old Anglo-Saxon kingdom of Northumbria and of the successor Viking controlled

territories and one of the most prolific mints of the period.[57] The single find sample of York is also the third largest in the dataset.

The mode is 0–25 kilometres and contains 35 single finds. Within 50 kilometres the finds are all within Yorkshire, and between 50 and 125 kilometres they are almost all exclusively within the outer reaches of Yorkshire and Lincolnshire. The other striking statistic in the table is the number of coins found beyond 200 kilometres. Interestingly, just under two-thirds of these coins (64.2%) are found in Norfolk, Suffolk, Cambridgeshire, Oxfordshire, Kent and Hampshire. It is clear, however, that the York mint had a strong presence in the north of England. Metcalf was right to indicate that York's coins are widely found in Yorkshire due to its more isolated geographic location and its 'end of the line' position in terms of English coastal trade.[58] However, York's current distribution is almost as national as London, with many more York coins having been discovered farther south compared to Metcalf's 1998 corpus.

[57] J. Kermode, 'Northern Towns', in *Cambridge Urban History*, 657–679 at 673.
[58] Metcalf, *Atlas*, 277.

**Figure 7: distribution of single finds from the York mint, 924–1135**

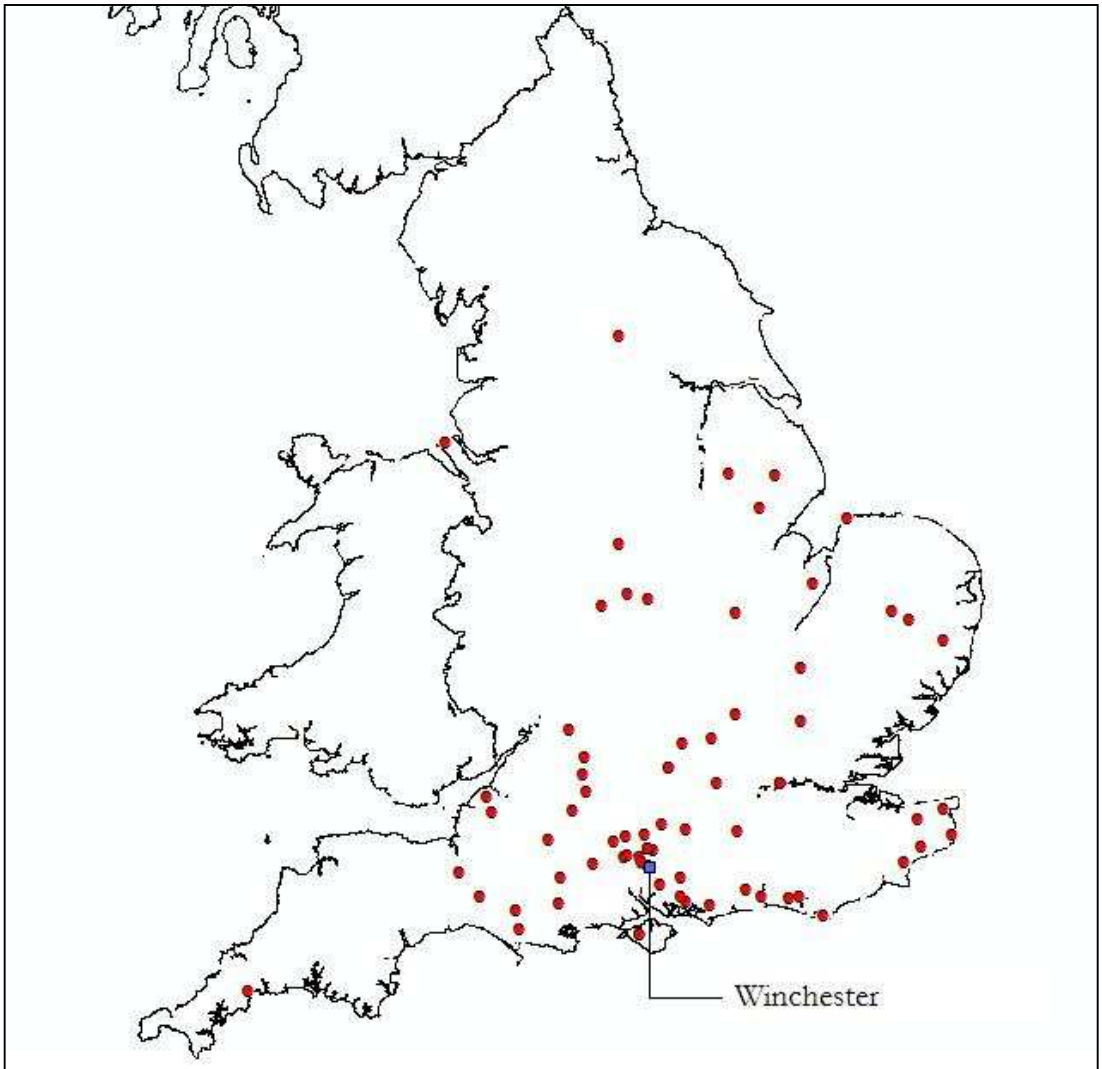



| Distance | 0–25 | 25–50 | 50–75 | 75–100 | 100–125 | 125–150 | 150–175 | 175–200 | 200+ |
|---|---|---|---|---|---|---|---|---|---|
| Number | 35 | 23 | 17 | 17 | 12 | 1 | 5 | 8 | 53 |
| Percentage | *20.5* | *13.5* | *9.9* | *9.9* | *7* | *0.6* | *2.9* | *4.7* | *31.0* |

5.5.2.2.3 Single finds from the Winchester mint

Winchester, one of the most important towns in Wessex, was the only mint which produced a substantial number of coins in this period which was not situated along the east coast of England. It was, however, accessible by sea via the river Itchen.

**Figure 8: distribution of single finds from the Winchester mint, 924–1135**




| Distance | 0–25 | 25–50 | 50–75 | 75–100 | 100–125 | 125–150 | 150–175 | 175–200 | 200+ |
|---|---|---|---|---|---|---|---|---|---|
| Number | 21 | 9 | 12 | 13 | 6 | 1 | 8 | 3 | 11 |
| Percentage | *25.0* | *10.7* | *14.3* | *15.5* | *7.1* | *1.2* | *9.5* | *3.6* | *13.1* |

However, Winchester was readily accessible to Southampton and the English Channel which may partially account for the relatively high sample of single finds.[59] The modal zone of single finds is the first, which accounts for a quarter of the total. There are steady numbers from 25 to 100 kilometres from the mint and these finds tend to be found in the counties which comprised the old kingdom of Wessex.[60] This could suggest an administrative use for coin here, and there is some evidence for the

[59] GDB 52a (Hampshire S1-3); see also C. Platt, *Medieval Southampton: The Port and Trading Community, A.D. 1000–1600* (London, 1973), 7.
[60] A similar point is noted by Naismith, 'The English Monetary Economy', 218.

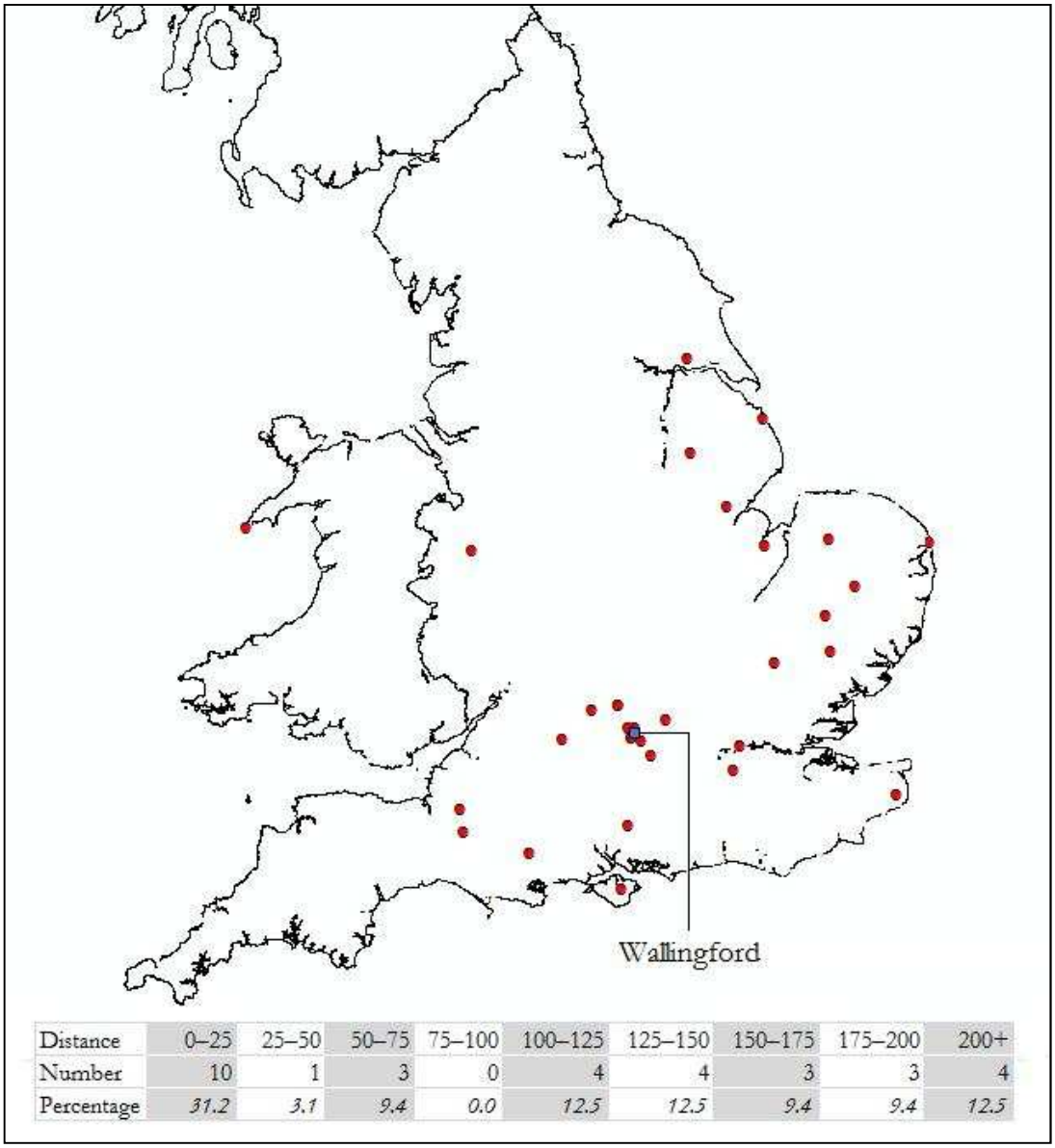
transportation of coin from Devon to Winchester in the south-western geld rolls of 1086.[61] Furthermore, the king and his court toured the royal estates to consume his food rents and convened with the aristocracy at great assemblies. The recorded instances of royal itineraries place the Anglo-Saxon kings very much in Wessex and more generally in southern England where the bulk of royal estates and meeting places lay.[62] If the king was funded with coin primarily from the Winchester mint then this may explain some of the dispersal patterns.

#### 5.5.2.2.4 Single finds from the Wallingford mint

The Wallingford mint yields 32 single finds. Almost a third of the total appears in the first zone, although there is significant circulation of Wallingford-struck pennies in the old counties of Wessex with discoveries in Somerset, Dorset, Wiltshire, Berkshire and Hampshire. Several specimens also make their way over to the east of England. Easy access to Wallingford for trade via the river Thames, and the town's relatively central geographical position may account for the wide scattering of single finds from this mint across England and Wales. A similar dispersion pattern occurs for nearby Oxford.

[61] Williams, *Kingship and Government*, 145; *Domesday Book, seu Libri Censualis*, iv, 65 and 489.
[62] D. Hill, *An Atlas of Anglo-Saxon England* (Oxford, 1981), 85–95; J. R. Maddicott, *The Origins of the English Parliament, 924–1327* (Oxford, 2010), 16–17.

**Figure 9: distribution of single finds from the Wallingford mint, 924–1135**

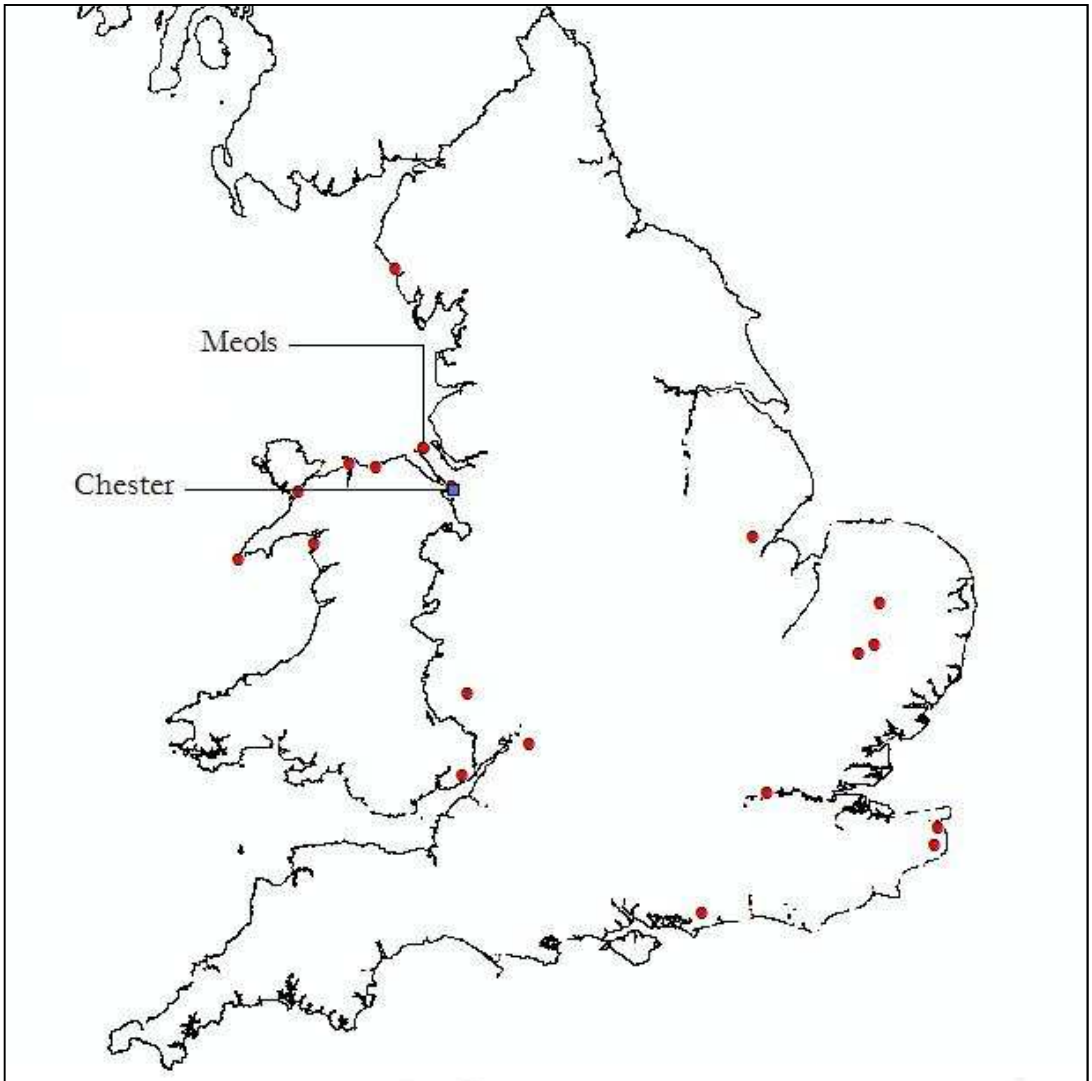



| Distance | 0–25 | 25–50 | 50–75 | 75–100 | 100–125 | 125–150 | 150–175 | 175–200 | 200+ |
|---|---|---|---|---|---|---|---|---|---|
| Number | 10 | 1 | 3 | 0 | 4 | 4 | 3 | 3 | 4 |
| Percentage | *31.2* | *3.1* | *9.4* | *0.0* | *12.5* | *12.5* | *9.4* | *9.4* | *12.5* |

5.5.2.2.5 Single finds from the Chester mint

In the late-tenth century, Chester was a prolific mint because it was closely linked to Norse Viking trade in Ireland. Indeed, 7 of the 8 coins in the 15–29.9 mile bracket were found at Meols.

**Figure 10: distribution of single finds from the Chester mint**




| Distance | 0–25 | 25–50 | 50–75 | 75–100 | 100–125 | 125–150 | 150–175 | 175–200 | 200+ |
|---|---|---|---|---|---|---|---|---|---|
| Number | 1 | 7 | 1 | 2 | 0 | 2 | 1 | 1 | 5 |
| Percentage | *5.0* | *35.0* | *5.0* | *10.0* | *0.0* | *10.0* | *5.0* | *5.0* | *25.0* |

The importance of Chester as a mint and port waned in the eleventh century, yet this is one mint which may support Metcalf's arguments that trade was key to understanding circulation patterns (see below).[63] Here we can see a local spread along the north coast of Wales and a single find at Drigg on the Cumbrian coastline. A similarly coastal spread of coins can be seen with the single finds along the Severn valley, along the south coast

[63] Astill, 'General Survey', *Cambridge Urban History*, 27–49 at 38. He suggests that Chester's position vis a vis trade with Ireland was becoming threatened due to the rise of southern mints such as Bristol and Exeter which were being fed with silver from the Harz Mountains.

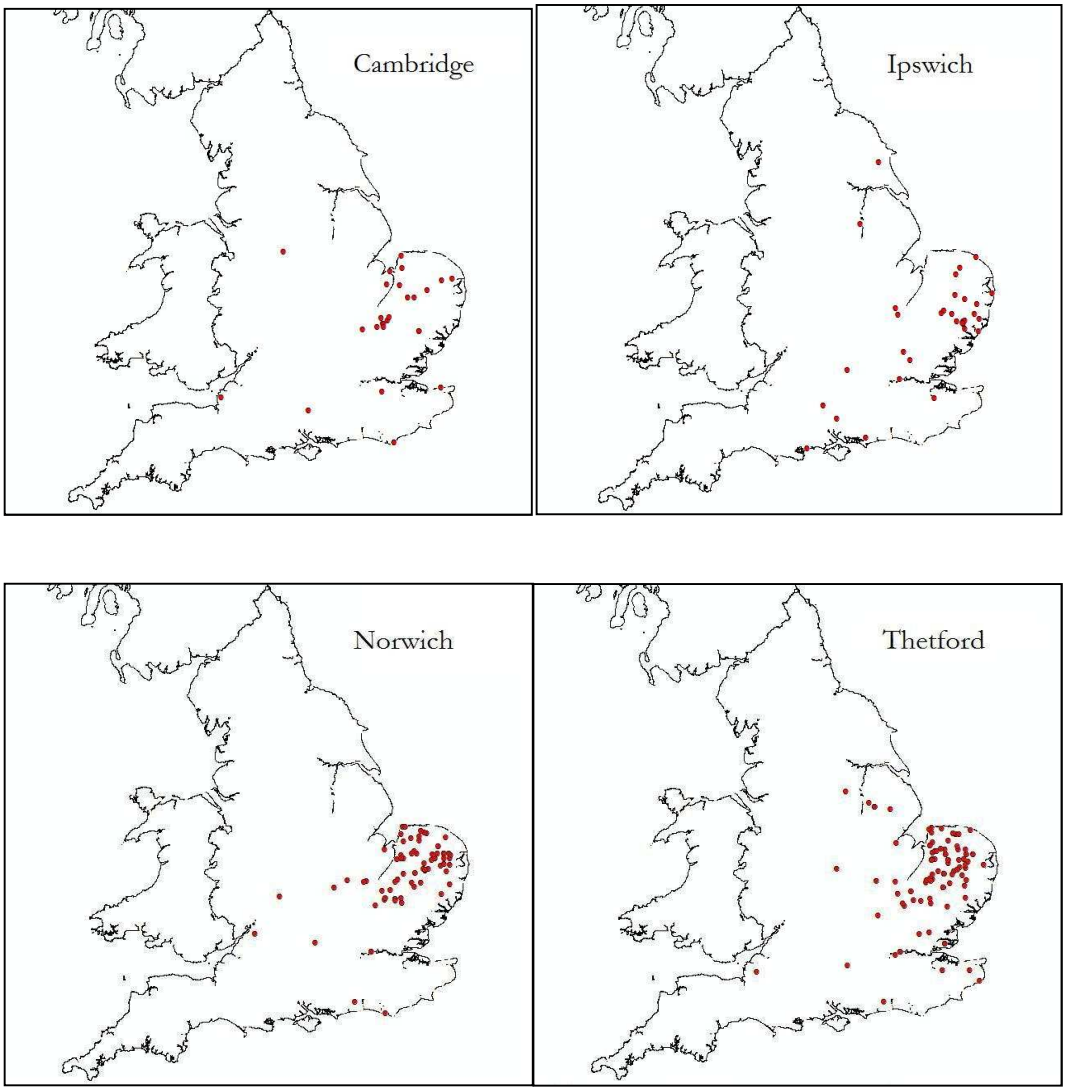
and into London. It is likely that single finds represent merchants leaving Chester via ship and sailing around the English coastline in order to trade. The Domesday-Book toll of 4d on each ship-load leaving Chester supports this position further.[64]

#### 5.5.2.2.6 Single finds from the East Anglian mints

One of the key phenomena that has been demonstrated so far is that of coins moving towards Eat Anglia from different parts of the country. Unsurprisingly, coins struck within Norfolk, Suffolk and Cambridgeshire have an overwhelming tendency to stay within this region (see fig. 11).[65] This suggests that there may have been significant demand for coin within the region. This may have been due to East Anglia's proximity to the continent and to international trade. However, it has also been argued that East Anglia was an economically advanced region, so coin may have been a more integrated part of the local economy here in the rest of England.[66] Significant pottery industries at Ipswich, Thetford and Stamford were already in existence by the tenth-century which may have contributed to a commercial environment conducive to regular coin use.[67]

[64] GDB 262c (Cheshire C:17).
[65] Naismith notes the same phenomenon, 'The English Monetary Economy', 216.
[66] Williamson, *Origins of Norfolk*, 119–21; Welldon-Finn, *Eastern Counties*, 117.
[67] Hinton, *Archaeology, Economy and Society*, 82–85.

**Figure 11: distributions of single finds from the East Anglian mints**




5.5.2.2.7 Single finds from small mints

Coins from smaller mints, i.e. those that have yielded just 1 or 2 single finds, tend to be found further from the mint than average (table 44). This could suggest that coin produced at the smaller mints was used in different, non local ways or it could simply be that smaller samples yield more random results. Only Barnstaple and Stafford were open for the duration 924–1135. Cadbury opened under Æthelred II and closed under Cnut, perhaps for the minting of tribute payments to the Danes, whilst the mints of

Christchurch, Carlisle, Durham, Pembroke and Rye were opened at different times by the Normans.[68] These factors should be borne in mind since they have a bearing on the sample sizes.

**Table 44: mints that have yielded 1 or 2 single finds together with the find spots and distances from mint in question**

| Mint | Find spot | County | Distance from mint |
|---|---|---|---|
| Axbridge | Winchester | Hants | 108.0 |
| Barnstaple | Little Wittenham | Oxon | 210.2 |
| Barnstaple | Chichester | W. Sussex | 233.2 |
| Bridport | Welford | Berks | 127.0 |
| Bridport | South Croxton | Leics | 249.8 |
| Buckingham | Bottisham | Cambs | 89.5 |
| Cadbury | Kingsholm | Gloucs | 95.4 |
| Carlisle | Fillongley | Warks | 292.4 |
| Christchurch | London | London | 143.9 |
| Droitwich | Swepstone | Leics | 67.8 |
| Droitwich | Naunton Beauchamp | Worcs | 13.2 |
| Durham | Glentham | Lincs | 168.3 |
| Newport Pagnell | Bury St. Edmunds | Suffolk | 100.4 |
| Pembroke | Lamphey | Pembrokeshire | 3.2 |
| Rye | Seasalter | Kent | 50.3 |
| Stafford | Roxton | Beds | 123.9 |
| Torksey | Stoke Rochford | Lincs | 52.0 |
| Watchet | Bassingbourne | Cambs | 107.0 |
| Watchet | Bainton | Yorks | 362.4 |
| Winchcombe | Chichester | W. Sussex | 149.8 |
| Average distance | | | 103.5 |

Most of the mints in table 44 are located fairly far from the main areas of single-find discovery in the south and east of England (see fig. 15). For example, Carlisle and Durham are in the far north of England, and Axbridge, Barnstaple, Bridport, Cadbury,

[68] C. E. Blunt, B. H. I. H. Stewart and C. S. S. Lyon, *Coinage in Tenth-Century England: from Edward the Elder to Edgar's Reform* (London, 1989), xxxiv; Allen, *Mints and Money*, Appendix A on pages 382–95.

Droitwich, Stafford and Watchet are in the west and south-west of England. The single finds of Pembroke and Droitwich show that coins from small mints were found, and presumably used, close to their mints of origin. However, it is possible that the coins of small mints were often transferred to areas with higher single-find densities.

## 5.6 Royal income and taxation as a determinant of the physical velocity of the coinage

### 5.6.1 Metcalf's analysis

Metcalf suggested that the flow of royal income and expenditure may partly explain such rapid movement of the coinage. He estimated that in the mid-eleventh century the king's income would have been valued around £10,000 per annum, or 2.4 million pennies. To reach this sum, Metcalf followed Barlow's royal demesne estimate of *c.* £2,500.[69] To this figure he added *c.* £5–6,000 from the heregeld and *c.* £2,000 from 'sundry perquisites of government'. However, he also stated that much of the royal demesne profits would have been paid in kind, and much of it might have been collected and dispersed locally. Thus, there would only have been between 1 and 2 million coins mixed into the local economy wherever the king spent his cash, usually in the south and west of England. As a result, royal finances alone would not easily explain these find-spot patterns. In 1998, Metcalf suggested that taxes may have been collected and transported to central or regional locations, and if that were the case then it may

[69] Metcalf, 'Continuity and Change', i, 23–24; F. Barlow, *Edward the Confessor* (London, 1970), 153.

begin to explain the diverse pattern of coin spread that we see though this would have taken several years to become visible.[70] However, he also stated:

> If the predominant uses of coinage had been fiscal and administrative, one might have expected minting to be more nearly in proportion to the wealth of each shire, and single finds to reveal a tendency towards coin circulation confined within shire boundaries. There are no signs of such a pattern.[71]

### 5.6.2 Discussion and evaluation

Modern scholarship has revealed that the figures on which Metcalf based his estimates of royal estate income have been underestimated (see page 25). Grassi reaches a total for the Confessor in 1066 of £6,596.6s.2d, rising to £8,146.13s.6½d. and one ounce of gold when additional revenue streams are added.[72] Baxter arrives at a similar total, specifically £8,089, rising to £9,588 when the values of Queen Edith's estates are added.[73] This demonstrates that revenues from royal estates were almost certainly far higher than Metcalf supposed, which means that the collection and dispersion patterns of royal income may have played a larger role in the circulation of coin than Metcalf had previously supposed (accepting that some royal income would have been consumed in kind).

To strengthen this point it has been possible to create a map of Edward the Confessor's estates in 1066 using the PASE database (fig. 12), which shows that royal estates were based across England. If the king was primarily based in Wessex and Mercia, as the

[70] Metcalf, *Atlas*, 42.
[71] Ibid., 279.
[72] Grassi, *Lands and Revenues*, 251 and 280.
[73] Baxter, *Earls of Mercia*, 128–38.

meeting places of assemblies hint at (see page 269), then long-distance movement of coin triggered by cash-commuted royal income may have played a significant role in explaining the high physical velocity of coin in circulation. For example, the distribution of York single finds in fig. 7 shows a spread of coin across the Midlands. It is possible that royal income brought some of these coins, collected from northern estates, to southern England.[74] Furthermore, the reference in the Axbridge Chronicle stating that victuals for the king were to be sold for money and sent to his treasury if he did not arrive at the borough to consume them may support this argument further (see pages 26–7).

[74] Naismith. 'The English Monetary Economy', 218.

**Figure 12: Edward the Confessor's estates in 1066**

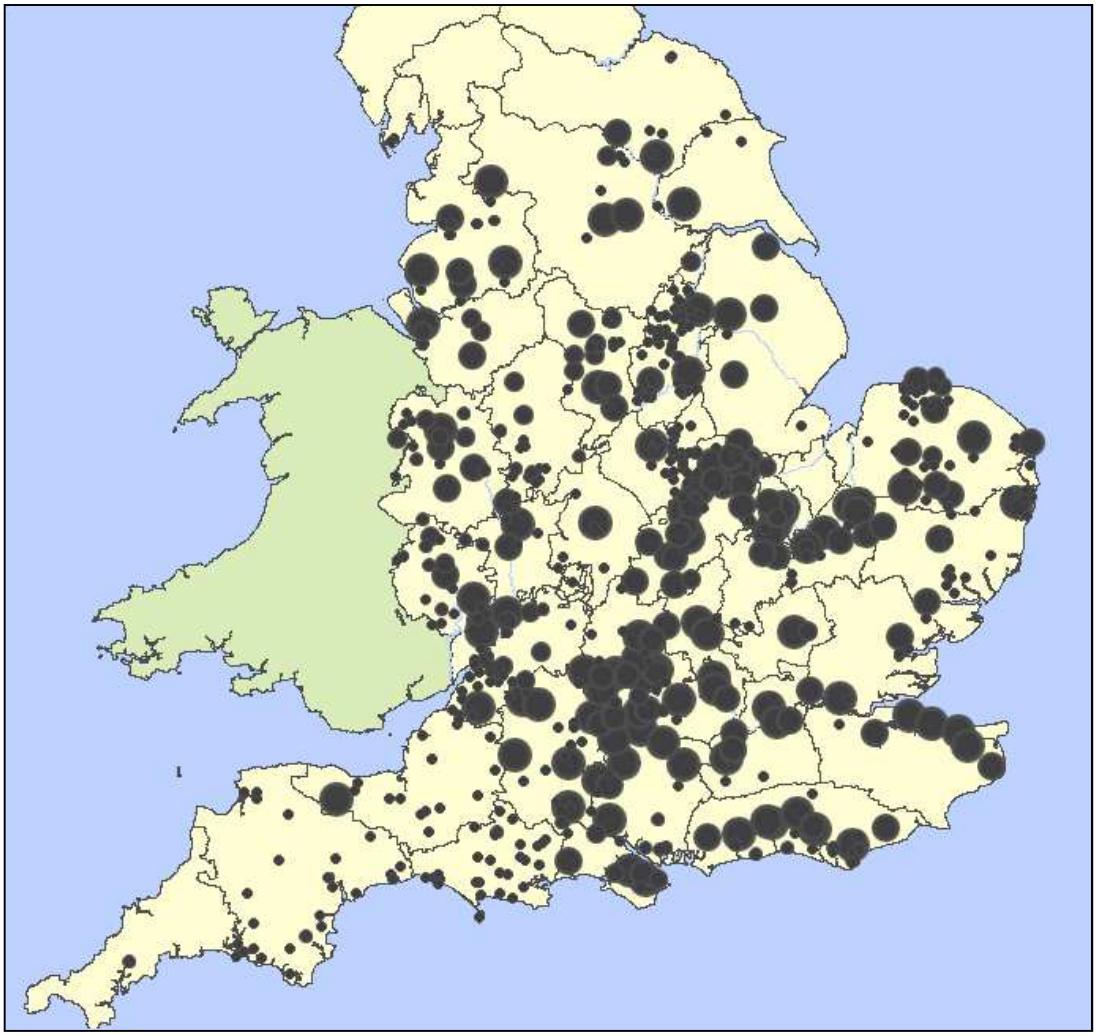
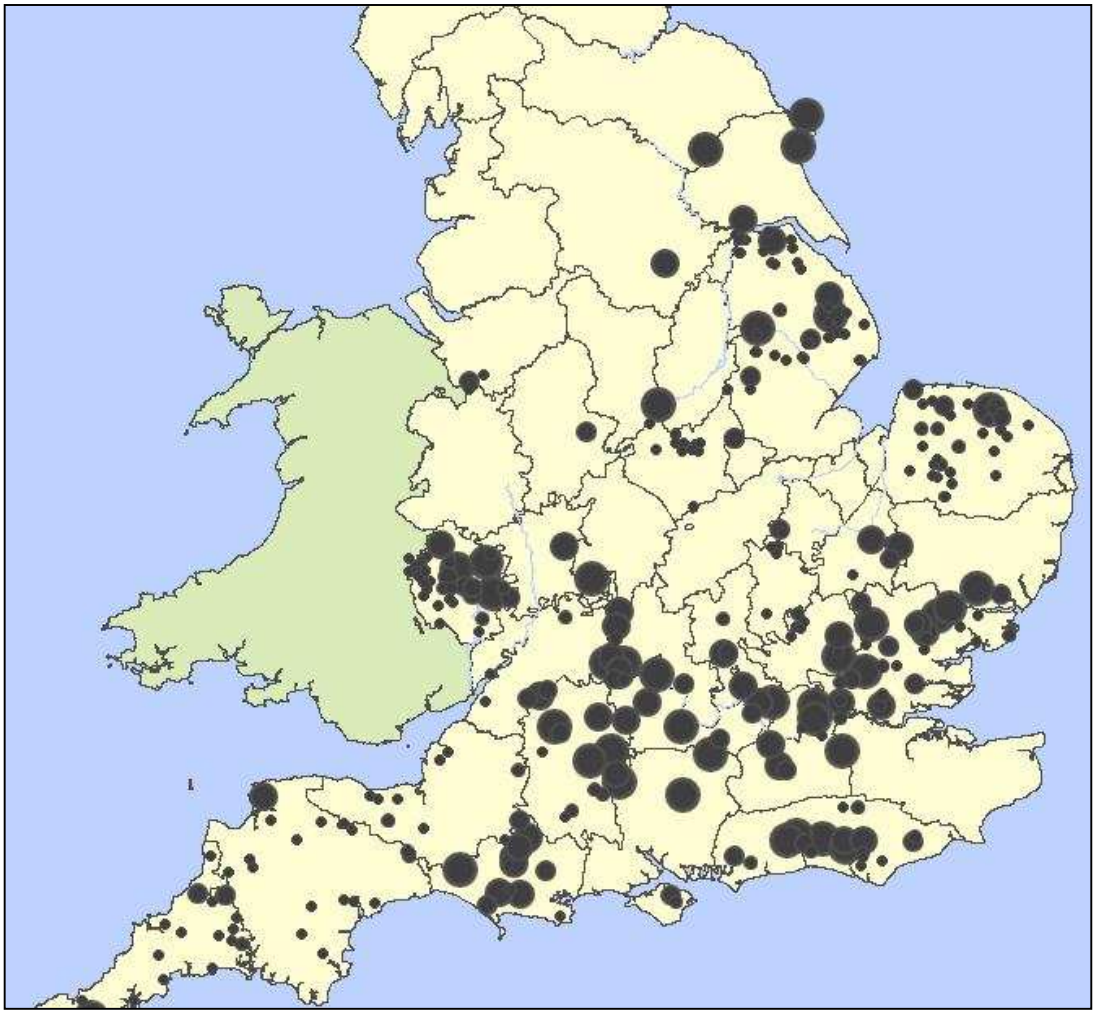


Figure 13, also derived from PASE, shows the estates of Harold Godwinsson, as earl, in 1066. Harold's lands, valued by Baxter at £3,174, were scattered across England.[75] Assuming that he also collected much of what was owed him in cash-commuted form, one can see how estate income for landholders might also contribute to the non-local coin proportions and high physical velocity of coin movement that we see.

[75] Baxter, *Earls of Mercia*, 129.

**Figure 13: Harold Godwinsson's estates in 1066**



Estate income from lower-level landholders could also have contributed to the intermingling of coin across England. For example, on the eve of the Conquest the royal priest Spirites held lands in Shropshire, Herefordshire, Wiltshire, Somerset, Hampshire and Kent worth over £50 (12,000d). If Spirites spent most of his time with the king in Wessex then commuted renders in the form of coin from his estate at St. Margaret's at Cliffe in Kent could have been transferred to the priest across southern England.[76]

[76] Search for 'Spirites' performed on the Domesday section of the PASE database on 23rd August 2012: http://domesday.pase.ac.uk/; Clarke, *The English Nobility*, 342–43; K. S. B. Keats-Rohan, *Domesday People: A Prosopography of Persons Occurring in English Documents, 1066–1166. 1. Domesday Book* (Woodbridge, 1999), 393.

Metcalf's views on taxation are broadly shared by Stewartby, who suggests that concentrations of locally minted coin could be explained on the hypothesis that sheriffs dispersed coins, which had recently been reminted for accounting purposes, within their shires on the king's behalf. Stewartby then suggests that the general mixing of coin throughout England could have been achieved by 'the receipts and expenditure of the central exchequer' alongside commercial activity.[77] Stewartby favours taxation as a prime mover of coin more than Metcalf, and one reason for this may be that Metcalf assigns an annual figure of just £5–6,000 for the collection of *heregeld*. In 1014 and 1041 the *Chronicle* gives figures of *c.* £20,000 for the sum raised by this tax.[78] If the average total raised was closer to this figure than to £5–6,000 then taxation may have affected significantly the patterns of coin circulation, especially if my estimates of the size of the circulating currency (*c.* £20–£65,000 between *c.* 973 and 1135 (see page 231)) approached reality.

## 5.7 Trade and commerce as a determinant of the physical velocity of the coinage

More so than royal income and expenditure, Metcalf posited trade and commerce as the key drivers for rapid circulation patterns:

The best reasons for thinking that trade was normally the major factor are that the proportion of non-local coins is fairly uniform throughout much of England; and that this pattern remains steady and does not so far as one can see respond to political vicissitudes. Secondly, the very

[77] I. Stewart, 'Coinage and Recoinage', 467–68.
[78] *ASC* E, *s. a.* 1014; *ASC* E, *s. a.* 1040 (*recte* 1041).

large flows of money into the country, which replenished the losses incurred through the payment of geld, imply widespread trade.[79]

### 5.7.1 The proportion of non-local coin is fairly uniform throughout England and did not respond to political factors.

The uniformity of non-local coins across England is discussed above (in section 5.5.1 of this chapter). The analysis performed with the new dataset affirms Metcalf's earlier assertions that roughly two-thirds of coins in most parts of England were non-local to their mints of origin. Metcalf therefore argued that trade was responsible because these steady patterns drew attention to 'the more settled aspects of political and economic life'.[80] Violent events such as the Viking attacks at the turn of eleventh century and the Norman Conquest did not affect coin circulation patterns, and Metcalf was hesitant in ascribing too much weight to royal income and expenditure.

### 5.7.2 The vast majority of the silver required for the English coinage appears to have come from abroad, which in itself alludes to overseas trade.

#### *5.7.2.1 Metcalf's hypothesis*

Metcalf has long believed that bullion supplies in England were sustained by a healthy balance-of-trade surplus with the Continent. In 1978 he argued that the monetary policy of Æthelred II encouraged the inflow of silver into the country. The king enticed foreign merchants by striking light-weight pennies for them at the main ports of entry

[79] Metcalf, 'Continuity and Change', i, 24.
[80] Ibid., 33–34.

as a form of tax-relief or tax exemption.[81] Metcalf developed the balance-of-trade surplus argument in 1980, explaining that in this period the only known English silver mining of the period at Lydford and Derby was small-scale. He therefore observed that obsolete (hoarded) and foreign coin were the most plausible alternative sources of silver, and ultimately the major bullion reserves were exploited from the Harz Mountains in Germany.[82] In 1998, Metcalf stated that money flowed out of England, especially towards Scandinavia, in large quantities up until *c.* 1040 and that the amounts involved must have been more than just tribute payments to the Danes.[83] Metcalf acknowledged that church plate could be melted down if need be and that local mining of silver may have added to the currency supply (see page 213). However, if mining had been the main driver then we would have seen busy mints near the mines in the Mendips or the Peak District which simply did not happen. Most of the silver, therefore, came from abroad through foreign trade. Concerning exports, Metcalf observed:

> There may … have been a thriving export trade in English wool. If so (and it is pure conjecture) one would have to say in the long perspective that it was a demand-led trade, led by the availability of plentiful silver on the Continent.

His conclusion is that 'one's judgement is that inflows of foreign coin are by far the major contributor throughout'.[84]

[81] Metcalf, 'Ranking of the Boroughs', 171 and 193.
[82] Metcalf, 'Continuity and Change', i, 21.
[83] Metcalf, *Atlas*, 7.
[84] Ibid., 28–29.

#### *5.7.2.2 Discussion and evaluation*

Metcalf's suggestion that international trade was the major factor in bringing silver to England remains plausible. Native sources of silver in the tenth and eleventh centuries appear to be small-scale. William of Malmesbury, writing in the twelfth century, tells us that Athelstan was able to extract £20 of gold and £300 of silver from the Welsh (...*ut ei nomine uectigalis annuatim uiginti libras auri, trecentas argenti penderent*...).[85] Further, the contemporary Welsh poem *Armes Prydein* describes Welsh reluctance to pay tribute (*trethev*) to Athelstan though it fails to indicate whether silver was paid.[86] In Domesday Book, the five Derbyshire manors of Darley, Matlock, Wirksworth, Ashbourne and Parwich rendered an annual payment of £40 of pure silver from their lead mines in 1086.[87] However, it is reasonable to assume that if these mines were the major source of English silver during this period then local mints, such as Derby, would have been the largest producers of coins. However, this was not the case.

Sawyer has suggested that during the first half of the tenth century, treasure taken from the Danes during the West-Saxon conquest of the Danelaw may have been melted down to provide a supply of silver to the English mints.[88] In the eleventh century, there are signs that church plate was melted down in order to meet tribute payments. For example, at Worcester the monk Hemming complained that in 1013–1014:

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[85] William of Malmesbury, *Gesta Regum Anglorum*, i. 214–17.
[86] *Armes Prydein: The Prophesy of Britain. From the Book of Taliesin*, ed. I. Williams (Dublin, 1972), 3–4, 6–7, 8–9.
[87] M. Allen, 'Silver Production and Money Supply in England and Wales, 1086–*c.* 1500', *EcHR*, 64 (2011), 114–131 at 115. GDB 272c (Derbyshire 1:15).
[88] Sawyer, *Wealth*, 88–89 and 94.

Sicuti factum est temporibus AÐELREDI, regis Anglorum, vastante et depopulante hanc patriam pagano rege Danorum, SWEIN nomine, cum maximum et fere importabile tributum tota Anglia reddere cogeretur. Ob hujus itaque tam gravis tributi exactionem, omnia fere ornamenta hujus eccliesiae distracta sunt, tabulae altaris, argento et auro paratae, spoliatae sunt, textus exornati, calices confracti, cruces conflatae, ad ultimum etiam terre et villulae pecuniis distractae sunt.

[As happened in the times of Æthelred, king of the English, this country was wasted and depopulated by the pagan king of the Danes, called Swein, who caused a very great and heavy tribute to be collected and rendered by the whole of England. On account of this very severe exaction of tribute, almost all the ornaments of this church were melted down, altar tables for their silver and gold were plundered, embellished cloth and chalices were broken up, crosses were melted down, until the land and estates had been utterly ruined for its wealth].[89]

Others have similarly argued that silver from church plate would have been enough to satisfy the Danish demands.[90] But this is insufficient to explain how England was able to replenish its stocks of silver.

What we do know is that during the 960s, large silver mines were discovered in the Harz Mountains in Saxony which dramatically increased the amount of silver in circulation across north-western Europe.[91] Finds in England of coins struck at Goslar and Cologne may indicate that a much greater number of German pfennings were brought to England during the late tenth and eleventh centuries.[92] Sawyer suggested that German and Flemish merchants brought this silver to England and traded it for wool,

[89] Hemming, *Chartularium Ecclesiae Wigorniensis*, i, 248–49. My translation.
[90] For a summary of these arguments see S. R. H. Jones, 'Devaluation and the Balance of Payments in Eleventh-Century England: An Exercise in Dark Age Economics', *EcHR*, 44 (1991), 594–607.
[91] Blackburn and Johnsson, 'The Anglo-Saxon and Anglo-Norman Element of North European Coin Finds', 156; Spufford, *Money and its Use*, 74; Naismith, 'The English Monetary Economy', 208.
[92] Cook, 'Foreign coins in medieval England', 237 and 270.

citing evidence from Domesday Book and archaeological evidence from eleventh-century sheep bones.[93] This is essentially the argument that Metcalf adopts to explain silver inflow, though he is cautious about the specific importance of the wool trade due to the lack of surviving evidence. However, the law code III Edgar states that a wey of wool shall be sold for 120d, which may suggest that a wool trade was active in the tenth century.[94] Henry of Huntingdon also stated in the 1130s:

Aduehitur autem argentum a proxima parte Germaniae per Renum pro mira fertilitate piscium et cranium, lane pretiosissime et lactis, armentorumque absque numero...

[Silver is brought from the nearest part of Germany, along the Rhine, in exchange for a wonderful abundance of fish and meat, of costly wool and milk, and cattle without number...][95]

Gardiner also draws on port evidence and recorded shipping journeys to suggest that the Flemish were England's largest trading partners in the first half of the eleventh century.[96] The weight of evidence thus supports the hypothesis of a balance-of-trade surplus with the Continent, which brought England her silver. Yet it is far from clear whether international trade heavily influenced patterns of coin circulation once the foreign silver had been exchanged for English pence at the mints.

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[93] Sawyer, 'The Wealth of England', 161–64; *Wealth*, 15–20 and 105.
[94] III Edg 8.2.
[95] Henry of Huntingdon, *Historia Anglorum*, 10–11. Greenway's translation; Campbell, 'Was it Infancy in England?', 196–97.
[96] M. Gardiner, 'Shipping and Trade between England and the Continent during the Eleventh Century', *ANS*, 22 (1999), 71–93 at 92–93

### 5.7.3 The most important mints (ranked by output) were east-facing riverine and coastal towns

#### *5.7.3.1 Metcalf's hypothesis*

In 1978 Metcalf showed that there was a strong connection between the top thirty of Æthelred II's most productive mints and Maitland's ranking of aid-paying boroughs in 1130 and 1156, suggesting continuity in ranking of important towns over a long period. The top ten of both included London, Winchester, Lincoln, York, Norwich, Exeter, Canterbury and Oxford.[97] In 1980, Metcalf also demonstrated that from *c.* 1000 to the Norman Conquest, London, Lincoln and York were always the top three most productive mints in England. Whilst acknowledging that there were some irregularities the overwhelming pattern of mint ranking was one of stability.[98] It was also becoming evident that the most productive mints were all ports which faced east towards the parts of the continent with which their trade was conducted. In 1998, Metcalf used his 588 mint-attributable single finds to establish which mints were the most productive. From this information he concluded:

> The six east-coast ports and trading towns of London, Lincoln, York, Stamford, Norwich and Thetford together produced more than half the national coinage. That is one of the cardinal facts of eleventh-century monetary history.[99]

Winchester should be added to this picture, whose share of minting rose after the Norman Conquest as Metcalf acknowledged.[100] Thus, the steady percentages of non-local coins, the source of bullion and the special characteristics of the most productive

[97] Metcalf, 'Ranking of the Boroughs', 159–60; Maitland, *Domesday Book and Beyond*, 175.
[98] Metcalf, 'Continuity and Change', i, 33–34.
[99] Metcalf, *Atlas*, 19.
[100] Ibid., 19.

mints led Metcalf to the conclusion that international trade provided the main impetus for circulation patterns.

#### *5.7.3.2 Discussion and evaluation*

Further evidence from two sources supports Metcalf's observations. The first is Bertil Petersson's study of 44,350 English coins from Scandinavian collections covering the years *c.* 973–1066 (see page 196). The second is data from the current single-find dataset:

**Table 45: comparison of mint rankings**

| Mint | Metcalf, *Atlas* *c.* 973–1086[101] | | Petersson *c.* 973–1066[102] | | Fairbairn *c.* 973–1086[103] | | Fairbairn 924–1135[104] | |
|---|---|---|---|---|---|---|---|---|
| | *Rank* | *No. of coins* | *Rank* | *No. of coins* | *Rank* | *No. of coins* | *Rank* | *No. of coins* |
| London | 1 | 133 | 1 | 10,023 | 1 | 319 | 1 | 407 |
| Lincoln | 2 | 73 | 3 | 4,342 | 2 | 185 | 2 | 201 |
| York | 3 | 48 | 2 | 4,805 | 3 | 160 | 3 | 185 |
| Stamford | 4 | 27 | 5 | 1,712 | 5 | 68 | 8 | 72 |
| Thetford | 5 | 27 | 7 | 1,485 | 4 | 81 | 4 | 105 |
| Winchester | 6 | 25 | 4 | 2,932 | 7 | 58 | 5 | 92 |
| Canterbury | 7 | 19 | 9 | 1,265 | 6 | 60 | 7 | 81 |
| Norwich | 8 | 19 | 10 | 1,083 | 8 | 42 | 6 | 86 |
| Chester | 9 | 18 | 6 | 1,550 | 12 | 22 | =15 | 23 |
| Wallingford | 10 | 13 | 17 | 480 | 9 | 29 | 9 | 33 |
| % of Total | | 68% | | 67% | | 72% | | 70% |

The significant variation in the Petersson rankings may suggest more unusual minting patterns associated with the large tribute payments to the Danes than any overall difference in the figures for minting. Nevertheless, the additional rankings that emerge

[101] Metcalf, *Atlas*, 19.
[102] Petersson, 'Coins and Weights', 213–14.
[103] Ipswich is ranked 10th in my single-find data for *c.* 973–1086 with 27 specimens.
[104] Ipswich is ranked 10th in my single-find data for 924–1135 with 32 specimens.

from the current single-find datasets are very similar to Metcalf's. They continue to show that London, Lincoln and York were the most productive mints of the period, followed by their east-facing counterparts Stamford, Thetford, Canterbury and Norwich. Winchester, too, remains significant. It also supports Metcalf's conclusion that the top ten ranking mints provided well over half the currency in circulation. However, even though the major mints were east-facing conduits of foreign bullion this does not prove that once the silver had entered England it continued to be used for internationally commercial purposes.

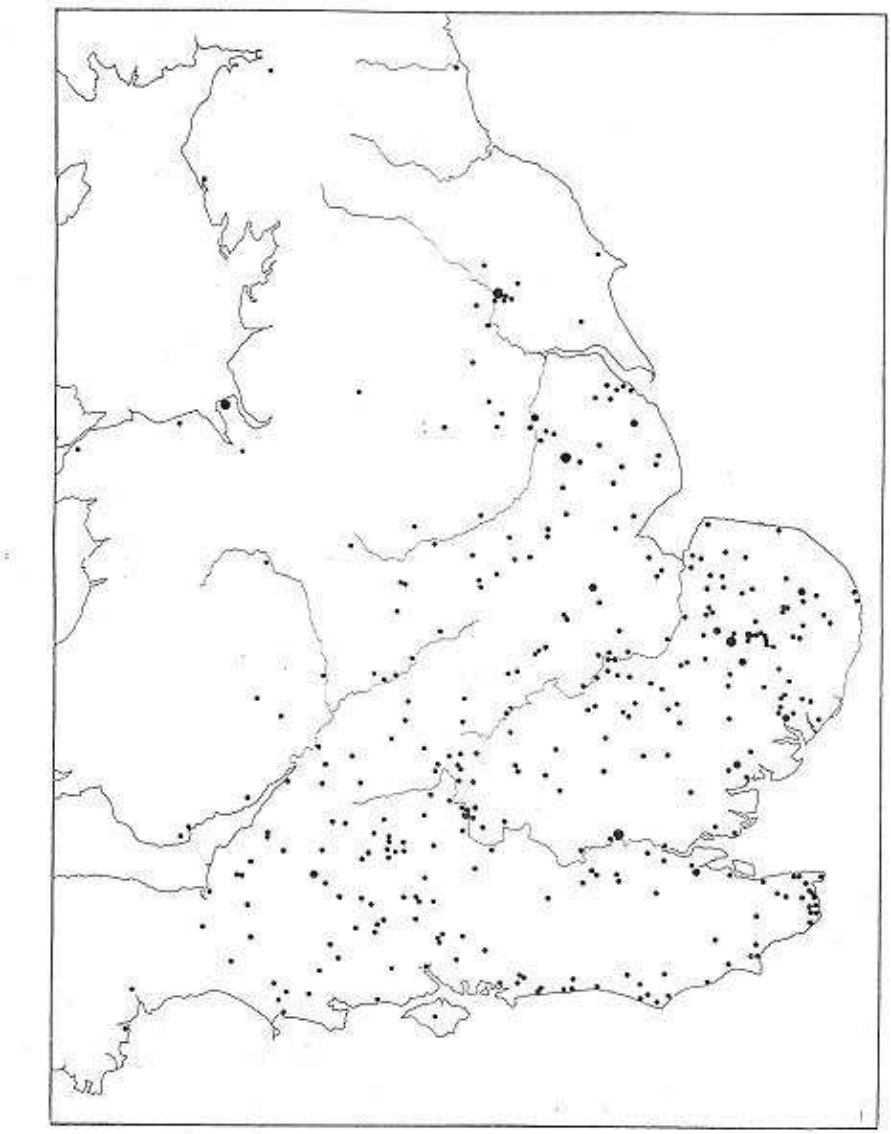
### 5.7.4 The geographic distribution of single finds also has a broad south-eastern and coastal bias.

#### *5.7.4.1 Metcalf's hypothesis*

In 1980, Metcalf could see no concentrations of single finds in England from his 270-strong sample. There was a fairly even spread from Yorkshire to Devon and most single finds had been discovered as a result of archaeological excavations in towns.[105] By 1998 the picture had altered a little (fig. 14). This updated map is a result of the greater number of single finds discovered and recorded by metal detectorists active since the 1970s. There is a concentration of finds east of a line drawn from York to the Severn estuary and they reveal a much more rural distribution than the 1980 sample.

[105] Metcalf, 'Continuity and Change', i, 25.

**Figure 14: Metcalf's distribution of single finds in 1998**[106]



To explain the more rural phenomenon, Metcalf distances himself from the notion that there were 'large numbers of ploughmen with holes (and money) in their pockets'. He then argues that coins would have become caught up in the rubbish that accumulated

[106] Metcalf, *Atlas*, 15.

around people's houses, which would have been taken to nearby fields up to a mile away to improve the soil.[107] Metcalf goes on to argue that:

> The regional pattern of minting and coin circulation strongly suggests that the predominant uses of coinage were commercial, and involved trade between the east-coast ports and their hinterlands, which overalapped, especially south of the Humber.[108]

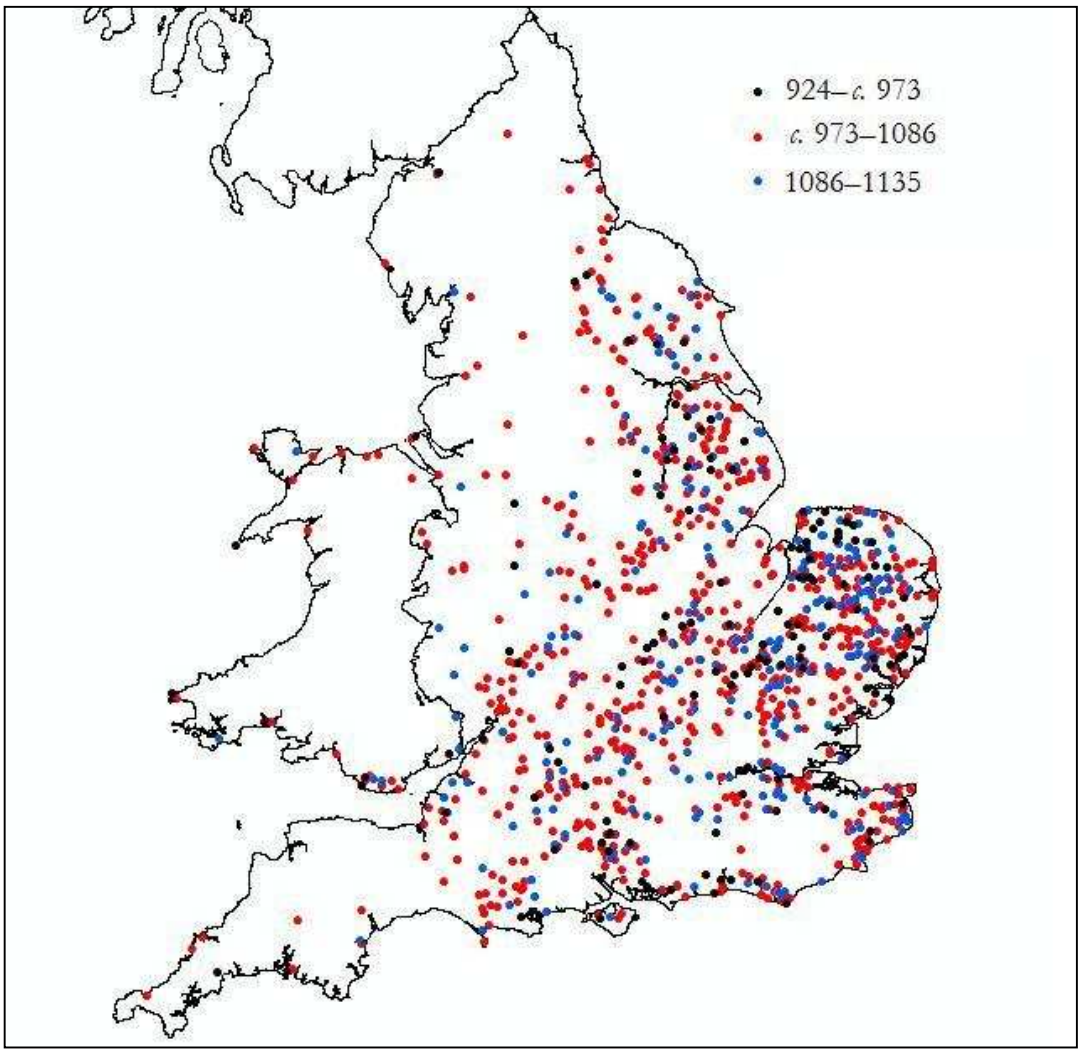
For Metcalf, the proximity of find spots to large east-facing mints clinches the thesis that long-distance commerce governed the overall pattern of single finds and, above all, the predominant use of coin.

#### *5.7.4.2 Discussion and evaluation*

The total distribution of single finds from my current, enlarged sample continues to show a strong predominance of coin circulation below the line drawn from York to the Severn estuary. This is also the case for single finds before and after the *c.* 973–1086 period, which shows remarkable continuity in coin circulation patterns despite the varying levels of silver supply, the fluctuations in mint rankings over this period, and the change in circulation periods after *c.* 973 and after 1035.

[107] Ibid., 14.
[108] Ibid., 278–79.

**Figure 15: dispersion of single find spots, 924–1135**

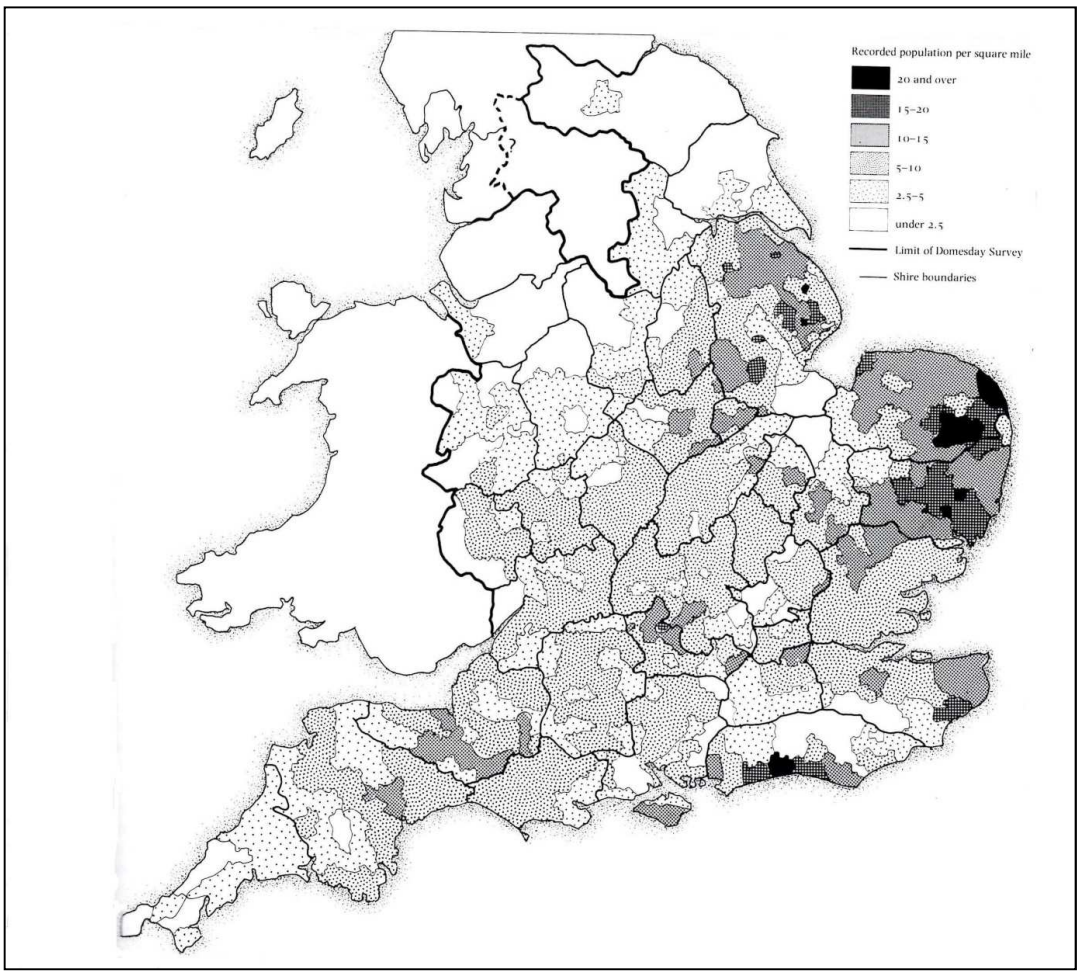



Compared with Metcalf's diagram, more coins have been discovered in the north and west. Further, the find spots are denser in East Anglia and Cambridgeshire, eastern Kent and along the south coast, Lincolnshire, Hampshire and around Oxford than in Metcalf's map. The blank areas are more accentuated in my map but these were often areas of dense medieval woodland such as the Weald in Kent and Sussex or the New Forest in Hampshire where the population was thinner. In Norfolk, the blank area on the east coast may reflect the watery and marshy nature of the land there which would make modern recovery of single finds problematic.[109] The blank area corresponding to Greater London is probably caused by its urban sprawl. Nevertheless, the general

[109] Darby, *Domesday Geography of Eastern England*, 148–49.

dispersion bears more than a passing resemblance to H. C. Darby's population distribution map of England in 1086, calculated from the figures given in Domesday Book:

**Figure 16: Domesday population map drawn and compiled from data by H. C. Darby**[110]




There is strong correspondence between the dispersion of single finds and population settlement.[111] The pattern does not work for the relatively highly populated Devon

[110] Darby, *Domesday England*, 90.
[111] Bevan, 'Spatial methods', 496–500 discovers a very similar relationship between the Domesday population distribution and the single-find distribution for the period 1066–1158.

which may reveal either that there was a less monetised economy in the far west of England or perhaps that there is a lack of metal detectoring activity in the county. Metcalf's assertion that farmers kept their coins at home (and not with them in the fields) may be compatible with the relationship between single-find and population distributions because it still assumes that the peasantry handled cash.

There may also be a connection between coin use and village life. If coins were used to pay taxes and fines to the state and an array of payments to landlords, then the presence of coins in rural villages becomes easier to understand. However, in this scenario one might expect to see more small hoards ready for collection by the reeve or beadle. Whilst many small hoards exist (see page 305), which may have been related to such payments, this does not explain the scattered and solitary nature of the single-find distribution. The evidence may be pointing towards regular, local use of coin for exchanges between peasants in villages.

The need for coin in rural settlements may also have a communal aspect. Two of the essential tools of village life were ploughs and harrows for producing crops, and chapter 2 demonstrated that a harrow was worth 16d. When set alongside the estimates of peasant incomes in chapter 3 this was a substantial sum and would have represented a significant capital outlay. However, if peasants shared the ownership of a harrow (or indeed even an ox or a plough-team) then they could have pooled their resources together to buy it. The payment could have taken the form of coin since it may have been more useful to the smith who produced the harrow than the bartering of 2 pigs or 4 sheep.

## 5.8 Fractions

Single coins are also found as fractions, and their very existence demonstrates demand for coins less valuable than whole pennies. Fractions were nearly always physical divisions of the penny into 2 or 4 since the mints almost exclusively produced whole pennies. Metcalf has argued that fractions were cut by moneyers in the mints on account of their neatness, but Williams has questioned this on the basis that chisels in any setting could divide coins effectively, especially since the majority of coins had a cross design on the back to facilitate easy halving and quartering.[112] The Anglo-Saxon kings from Alfred to Edgar (except Athelstan) struck round halfpence but these coins are rare.[113] Around 1108 Henry I tried to reintroduce round halfpennies during a coinage reform, but whilst several specimens have been found they do not dominate the corpus nor do they replace cut halves.[114]

In the current corpus of 2,552 single finds the number of halfpennies, both cut and struck, is 417 (16.3%) and the number of farthings is 121 (4.7%). These figures closely agree with those produced by Metcalf in his *Atlas* when of the 627 type-attributable single finds at his disposal, 99 were cut halves (15.8%) and 25 were cut farthings (4.0%). Metcalf argued that the number of cut fractions declined after the Norman Conquest but the current figures suggest otherwise: from 1066–1135 the total number of single finds is 814 of which 166 are fractions (20.3%).[115] Using the current percentages for

[112] Metcalf, *Atlas*, 80–81; Williams, 'Monetary Contacts', 252.
[113] An apparent eleventh-century halfpenny of the *Sovereign* type struck at Chester has been deemed a nineteenth-century forgery, E. Pirie, *Coins in Yorkshire collections. The Yorkshire Museum York. The City Museum, Leeds. The University of Leeds. SCBI,* 21 (London, 1975), xxii.
[114] Allen, *Mints and Money*, 346–47.
[115] Metcalf, *Atlas*, 18–19, 30–31, 81–82.

halfpennies and farthings we can calculate an approximate number of these fractions in circulation. Let us assume for the sake of argument that the size of the currency in circulation between *c.* 973 and 1135 was £30,000, or 7.2 million coins (see pages 231 and 234). The halfpenny percentage of 16.3 equates to 7.85% of the currency, or £2,445, which produces a figure of 1,173,600 halfpennies in circulation. The farthing estimate of 4.7% equates to 1.175% of the currency, or £352 10s, which produces a figure of 338,400 farthings in circulation. These figures should be set against a total of around 6.5 million whole pennies in circulation, derived from a circulating currency figure of £30,000.

It is possible that the percentage of fractions in my dataset may be an underestimate of the real numbers which saw active circulation because metal detectors detect larger coins more easily than smaller coins. Conversely, smaller coins might have been lost more easily than larger coins which may overestimate the proportion of smaller coins in the samples.[116] However, different sources of evidence can produce widely differing results. The spoil produced at the London Vintry site at 68–69 Upper Thames Street between 1989 and 1991 was scanned by detectorists. This revealed 70 coins for the period 924–1135 of which 17 were whole pence (24.3%), 41 were halfpennies (58.6%) and 12 were farthings (17.1%), which may suggest a high demand for fractions in urban areas.[117] Furthermore, Allen has drawn attention to 15 single finds of the period 1066–1180 found in cliff-fall material at Dunwich, Suffolk, in 1996 which comprised no whole pence, 11 halfpennies and 4 farthings. Since this material was rigorously checked, Allen argues that the Dunwich finds may better indicate the role played by fractions in

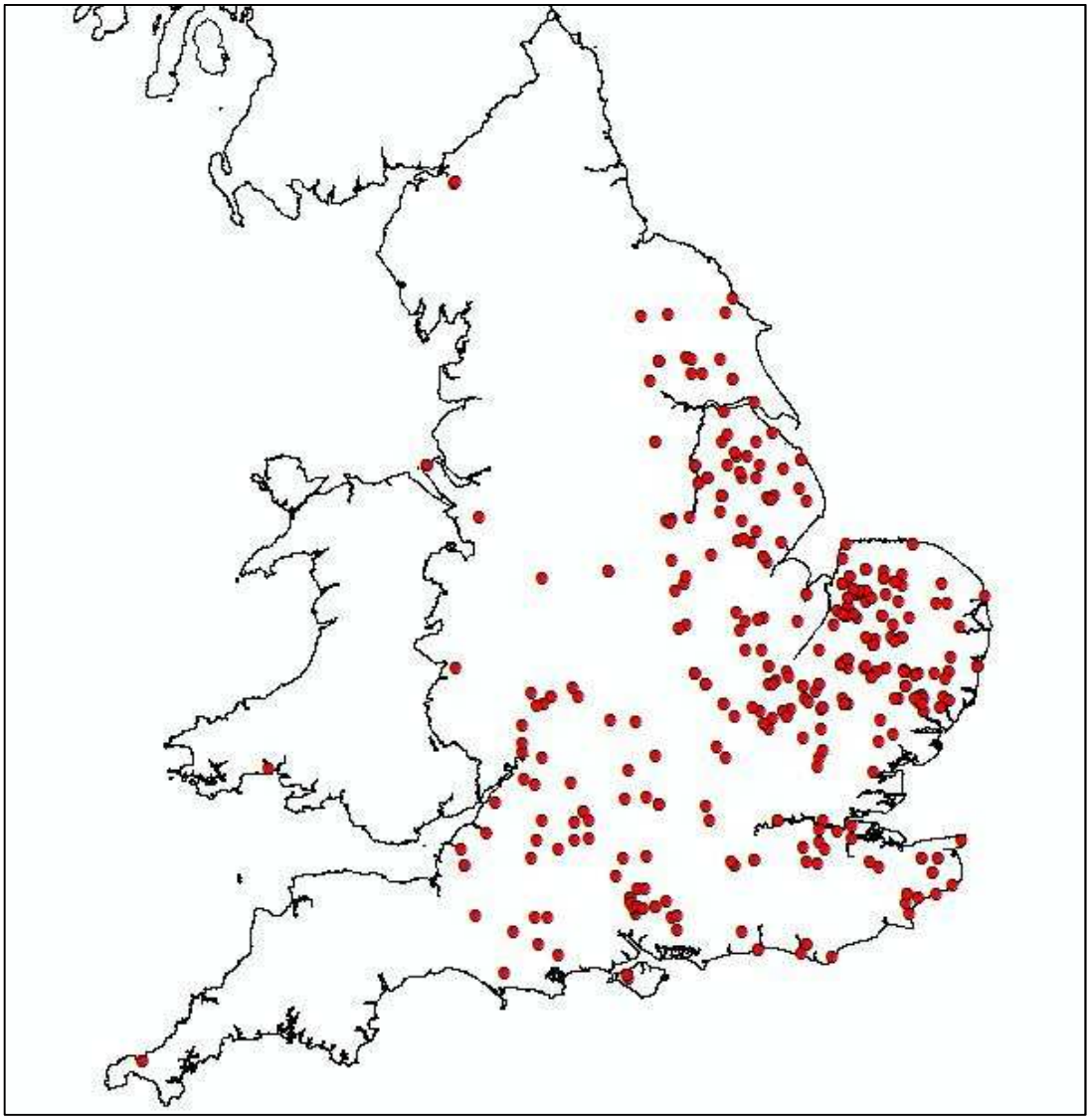
116 Mayhew, 'Coinage and Money', 82–83; Allen, *Mints and Money*, 319.
117 R. Kelleher and I. Leins, 'Roman, Medieval and Later Coins from the Vintry, City of London', *NC*, 168 (2008), 167–240 at 167, 176–180 and 213–15. These coins have not been included in EMC database and do not feature in my single-find dataset.

the circulating currency because the problems associated with finding smaller coins were circumvented in this instance.[118]

Figure 17 shows the geographical dispersion of single-find fractions for the period 924–1135. Whilst sites like the Vintry show that fractions were used in urban centres, it is clear that fractions were also used nationwide in rural areas and in areas of dense settlement since it mirrors the distribution in fig. 15. Chapter 3 described many payments with values in fractions, such as on the twelfth-century manor of Fontmell Magna, Dorset, where the *villani* owed 7½ pence rent for holding a virgate or 3¾ pence for a half-virgate.[119] It is therefore conceivable, on the basis of the evidence in this section, that cut fractions played an important role in the monetary economy and may have been used, in many instances, to meet payments such as those just described.

[118] Allen, *Mints and Money*, 348. The Dunwich finds for the period 1066–1135 feature in my dataset.
[119] GDB 26a (Sussex 12:1); Stacy, *Shaftesbury Abbey*, 110–115.

**Figure 17: the geographical dispersion of fractions, 924–1135**



## 5.9 Conclusion

It is clear that coins circulated around England at a high physical velocity because many coins have been found a long way from their mints of origin. This accords well with the income-velocity analysis carried out in the chapter 4 conclusion, which demonstrated how hard the currency had to work to facilitate monetary transactions prior to the thirteenth century. Analysing the physical velocity of the coinage within regional frameworks presents significant problems in that they do not reflect specific zones of

circulation. Much more satisfactory has been to use Metcalf's 1980 distance-from-mint analysis. This study has also shown that the reasons for rapid physical velocity of coin circulation need to be substantially reconsidered. We now know that royal income was likely to be far higher than previous estimates and as such, it may have played a much stronger role in the rapid movement of the coinage. Income from the estates held by all those below the king is also likely to have contributed to the pattern in a similar way. National taxation must also have had an impact on the circulation of coin with its collection and dispersion patterns.

Metcalf argued that international trade was the most important factor governing circulation patterns because of the stable mint ranking structure of the large, east-facing mints, the overseas silver bullion which was channelled through these mints, and the bias of find spots towards the south and east of England. It is undeniable that international trade played a role in bringing silver to England but as Metcalf himself noted, international merchants were not the only users of coin. Single pennies, halfpennies and farthings have been discovered all over the English countryside as well as in urban areas, and this suggests that there was more demand for coin than from continental traders alone.

The proportion of single find losses within 25km of the mints is likely to be high because coins had to pass through this zone to move elsewhere. But given that towns were also dependent on their immediate surroundings for their provisioning, these high proportions may point towards the monetisation of the peasant economy if peasants

were selling some of their surpluses in towns.[120] The find-spot patterns for single finds and population density correlate strongly. The coins of London, Lincoln and York, for example, all appear to be attracted to population-dense areas such as East Anglia, eastern Kent and Lincolnshire, and coins of the East Anglian mints overwhelmingly circulated within the region. Coins may have 'hopped' from the burhs in which they were struck from village to village, or along rivers, until they reached the places of highest demand. It is thus conceivable that demand for coin in population-dense areas may account for many of the single finds in the south and east of England.

[120] E. Miller and J. Hatcher, *Medieval England, Rural Society and Economic Change: 1086–1300* (London, 1978), 10; Campbell, 'Measuring the commercialisation', 136–39; Naismith, 'The English Monetary Economy', 219.

## 6. Analysis of the numismatic evidence: Hoards

This chapter considers how coin hoards illuminate monetary use in the period 924–1135. Only hoards discovered in England and Wales will be examined because only they can tell us about monetary use within these boundaries. External hoards, such as those from Scandinavia, will therefore not be studied. Hoards can be loosely characterised as finds of more than one coin found in one place. They often contain several coin types and their initial use by numismatists was to gauge the correct sequence of types for the Anglo-Saxon and Norman periods.[1] Hoards have also been used to create estimates of mint output (see chapter 4). Furthermore, the number of coins discovered from hoards far exceeds the number of single-find coins, so the hoards remain a substantial corpus of evidence which continues to grow year on year.

A comprehensive analysis of the hoard evidence will allow a broad framework for its interpretation. Section 6.1 will seek to define hoards and the broad reasons behind their deposition. Section 6.2 will discuss the available hoard data and the nature of the recorded evidence. The analysis of this evidence will be carried out in section 6.3. Classification of the hoards in terms of their value permits speculation on who their depositors might have been (6.3.1). The significance of hoarding vessels will then be analysed (6.3.2). The compositions of the hoards reveal many aspects of their character. The presence of objects other than coins will be considered (6.3.3). The representation of coin types in the hoards allows consideration of how the monetary system functioned in practice (6.3.4). Next, the physical velocity of the coinage is analysed and

[1] For example, P. Seaby, 'The Sequence of Anglo-Saxon Coin Types, 1030–50', *BNJ*, 28 (1955–57), 111–14; M. Dolley and S. Lyon, 'Additional evidence for the sequence of types early in the reign of Edward the Confessor', *BNJ*, 36 (1967), 59–61; M. Blackburn, 'Coinage and Currency Under Henry I', *ANS,* 13 (1990), 49–81; Allen, *Mints and Money*, 138–41.

compared with the results from the single finds (6.3.5). The chronological distribution of the hoards will show how turbulent social and economic periods could affect hoarding patterns (6.3.6). Finally, the geographical distribution of the hoards is considered (6.3.7).

## 6.1 Defining hoards and depositions

As Blackburn observes, 'hoards are typically sums of money that have been put together and buried for safe keeping, and then for some reason not recovered by the owner...hoarding was a normal way of protecting money'.[2] Some hoards may have been savings deposits since many of them contain multiple coin types over an extended period of time. This may suggest that people were keeping coins, or treating them as stores of bullion, to be used as and when required. Poor weather and disease threatened the population throughout this period. For example, in 1047 the *Chronicle* states that both men and cattle perished due to the severity of the frost and snow that winter.[3] Maintaining savings where possible could offset some of this danger. Poor weather and disease may also explain why some hoards were never recovered.

Some hoards may represent convenient places where money in regular use was kept. Chapters 1 and 3 showed the ways in which coins were used at all social levels, and hoards may have been kept somewhere around the holding or estate to afford easy access to it. Security (or insecurity) may have prompted people to hoard coins. The traditional example of this is during periods of civil strife or warfare and it will be

[2] M. Blackburn, '"Productive" Sites and the Pattern of Coin Loss in England, 600–1180', in T. Pestell and K. Ulmschneider (eds.), *Market in Early Medieval Europe: Trading and 'Productive Sites', 650–850* (Trowbridge, 2003), 20–36 at 22–23.
[3] *ASC* C *s. a.* 1046 (*recte* 1047).

shown below that violent events such as the Norman invasion of 1066 and the harrying of the North in the late 1060s also left their marks in the hoard evidence. A famous literary example of this phenomenon comes from the diary of Samuel Pepys. When the Dutch were attacking London in 1667, he sent £1,300 of gold into the country with his father and wife 'in their night-bag' for its protection.[4]

There may have also been plenty of instances during peacetime which led people to hoard coins for security purposes. Life from the tenth to the twelfth centuries could be dangerous, shown by the continual references to theft, murder and breach of the peace in the law codes (see chapter 3, section 3.5). A hole in the ground or a nook in a tree might serve as useful places to hide coins in an emergency, such as on a road notorious for robberies. If the depositor were to die suddenly, or forget where he or she had put the hoard, then this may account for its non-retrieval. Trust (or a lack of) may account for the deposition of some hoards. An anecdote drawn from much later evidence illustrates the point. In his diary entry for 1667, Samuel Pepys records that he became anxious about his gold after learning that it had been buried in the middle of the garden in broad daylight. Samuel suspected that his sister knew of its presence, so he asked for the cash to be returned to him in London because he thought it would be safer there.[5] Hoarding was usually deliberate, but it remains possible that 'hoards' were accidentally lost. A mislaid purse might be difficult to recover if dropped in a wood full of undergrowth or if trodden under foot into wet mud.

[4] R. Latham (ed.), *The Shorter Pepys* (London, 1985), 788. Diary entry for 13th June 1667.
[5] Ibid., 796. Diary entry for 20th June 1667.

## 6.2 The hoard evidence

The first step in collecting data on hoards is to obtain a definitive list of them for the period 924–1135. This is straightforward because the Fitzwilliam Museum, Cambridge, keeps a hoard checklist on its website (though it is not always completely up to date).[6] A second invaluable resource is the recent publication of *Mints and Money in Medieval England*, in which Martin Allen lists and analyses the hoards for the period *c.* 973–1135, and assesses their reliability.[7] For example, the Mayfield hoard of Staffordshire features as no. 243 on the Fitzwilliam Museum's checklist but Allen sees no reason for its inclusion. He thinks that it was a hoard constructed on fragile grounds by Michael Dolley.[8] Allen also provides a comprehensive list of references for the hoards in his timeframe. Prior to 1956, J. D. A. Thompson's *Inventory of British Coin Hoards* is the best source for uncovering the composition of mints and types within each hoard.[9] However, many more hoards have been discovered since 1956 and have been published disparately.

I have also included Welsh hoards that contain English coins during this period. This is because the Normans expanded the English mint network to Cardiff, Pembroke, St. David's and Rhuddlan after their late eleventh-century invasions and settlement. The main checklist I have used for these hoards is Besly's 2006 article on Welsh mints and coinage.[10] I have also examined editions of the government-published Treasure Annual Reports (TAR) from the last 10 years to ensure that my list is fully comprehensive. I

[6] http://www-cm.fitzmuseum.cam.ac.uk/dept/coins/projects/hoards/index.list.html
[7] Allen, *Mints and Money*, Appendix E on pages 446–514.
[8] Personal comment.
[9] J. D. A. Thompson, *Inventory of British Coin Hoards, A.D. 600–1500* (Oxford, 1956).
[10] E. Besly, 'Few and far between: mints and coinage in Wales to the middle of the thirteenth century', *Coinage and History*, 701–19 at 715–16.

have used a total of 157 hoards discovered in England and Wales datable to the period 924x1135.

Hoards are discovered in the same ways as single finds. Firstly, they could be found by chance. Secondly, archaeological investigations have unearthed several hoards. For example, the Coppergate and Minster hoards of York were both discovered during excavations in the city from 1971 to 1981.[11] However, hoards have been discovered in greater number since the 1970s through metal detectoring. Records begin with the 1687 Hundon hoard but of the 157 hoards in the corpus, 62 (39.5%) have been discovered in the 43 years since 1970.[12] Some hoards have been discovered by detectorists scouring the spoils caused by civil engineering. For example, the 1980–2 Welbourn hoard of Lincolnshire was uncovered amongst the spoil caused by the laying of service pipes.[13] But much metal-detecting activity takes place in open fields because ploughing often brings new discoveries to the surface. Ploughing can sometimes blur the distinction between single finds and hoards because coins can become dispersed by the machinery. For example, the Knaresborough hoard of 186 type 15 coins of Henry I was scattered in a field but Williams suggests that they belong to the same deposit because coins belonging to this reign are rare.[14]

[11] E. J. E. Pirie, *Post-Roman Coins from York Excavations, 1971–81* (London, 1981), 56; E. Pirie, with M. Archibald, 'Post-Roman coins', in D. Phillips and B. Heywood, *Excavations at York Minster. Volume 1. From Roman Fortress to Norman Cathedral. Part 2. The finds*, ed. M. O. H. Carver (London: HMSO, 1995), 527–30 at 530.

[12] C. E. Blunt and H. E. Pagan, 'Three Tenth-Century Hoards: Bath (1755), Kintbury (1761), Threadneedle Street (before 1924)', *BNJ*, 45 (1975), 19–32 at 28.

[13] M. A. S. Blackburn, 'The Welbourn (Lincs.) hoard 1980–82 of Æthelred II coins', *BNJ*, 55 (1985), 79–83.

[14] G. Williams, 'Knaresborough area, North Yorkshire, 2008–9', *NC*, 170 (2010), 432–33.

Metal detectoring has had a further impact on the hoard evidence since it has skewed the average size of the hoard towards the lower end of the scale. Of the 95 hoards known before 1970, 51 were larger than 20d (the significance of the 20d figure is explained in section 6.3.1 of this chapter) and 36 were 20d or smaller (37.9%).[15] However, of the 157 hoards currently known the number of hoards less than 20d in value has increased to 81 (51.6%).[16] Further evidential problems surrounding material discovered via metal-detectoring can be found in chapter 5 (see pages 240–41).

Any study of the hoards in this period is also dependent upon how well they were recorded and upon the quality of their publication. For example, our source for the 1834 Beetham hoard of Cumbria only states that there were 'upwards of 100 coins chiefly of the reigns of William the Conqueror and his son William Rufus, with a few of Edward the Confessor and Canute the Dane ... in a fine state of preservation'.[17] This is fairly common with hoards discovered prior to the twentieth century; they often became dispersed amongst collectors before systematic records could be made. Some hoards are also only partially recorded. The very large Beauworth hoard of Hampshire, discovered in 1834, may have originally contained *c.* 12,000 coins but only 6,539 specimens from *Two Stars* to *Paxs* have been examined.[18] Hoards discovered in the twentieth and twenty-first centuries tend to be recorded more carefully. The Portable Antiquities Scheme has also made it easier to record new discoveries.[19] A list of the hoards used in this thesis can be found in Appendix E.

[15] Nine hoards known before 1970 were of unknowable size.
[16] Ten of the hoards in the whole corpus are of unknowable size.
[17] http://www-cm.fitzmuseum.cam.ac.uk/dept/coins/projects/hoards/index.notes.html#BP274
[18] Thompson, *Inventory*, no. 37.
[19] www.finds.org.uk/

## 6.3 Analysis of the hoard evidence

### 6.3.1 Hoard sizes and depositor identities

A major issue surrounding hoards and hoarding behaviour relates to the identity of depositors. Metcalf has suggested that merchants were sometimes responsible for hoarding sums of cash. For example, he argues that the Walbrook hoard of London, dated to the early to mid-1070s, was deposited by a merchant with trading connections in Lincolnshire, East Anglia and Wessex due to the high representation of coins from those areas.[20] He has further argued that the Sedlescombe hoard of Sussex, dated to the early to mid-1060s, may have been owned by a trader with access to the nearby mint of Hastings because 670 out of the 1,097 coins examined from the hoard were from that mint.[21] This figure is all the more surprising since Petersson's data suggests that Hastings produced just 0.8% of English coins between *c.* 973 and 1066.[22]

Blackburn has suggested that royal officials might have been responsible for compiling hoards. Rather than being a trader, the owner of the Sedlescombe hoard might have been receiving regular royal payments from the sheriff of Sussex due to the high proportion of coins from Hastings.[23] Until the *heregeld* was suspended in 1051 (though see pages 221–22), a reasonable suggestion for such a recipient might have been a member of the king's standing army who was paid by this tax. Another beneficiary may have been the sheriff himself or one of the many agents of the late Anglo-Saxon state.[24]

[20] Metcalf, *Atlas*, 169–70; Thompson, *Inventory*, no. 255.
[21] Metcalf, 'Continuity and Change', i, 20–49 at 30–31; *Atlas*, 170–71; Thompson, *Inventory*, no. 327.
[22] Petersson, 'Coins and Weights', 213.
[23] Blackburn, 'Welbourn hoard', 82–83.
[24] Campbell, 'Agents and Agencies', 201–25.

For example, the tax collectors mentioned in the 1084 geld rolls of south-western England were entitled to the geld of one hide (6s or 72d) for their efforts.[25]

The foregoing suggestions are perfectly plausible yet they yield a fairly narrow framework for interpreting hoards and hoarding behaviour. The Walbrook hoard contained around 7,000 pence (about £30) and the Sedlescombe hoard around 2,400 (£10). These sorts of sums would buy a horse or a hawk between the tenth and the twelfth centuries; not the sort of possessions that any class of dependent peasant would own. However, of the 157 known for 924–1135, 45 (28.7%) contain 4d or under. Therefore, a broad framework is required to interpret these hoards.

Metcalf has tried to engage with these smaller finds with his term 'mini-hoard', which denotes a discovery of 2 or 3 pence.[26] 'Mini-hoards' are often recorded as single finds, but Metcalf considers it probable that these coins could have been lost or deposited together, especially if the coins were of the same type or were die-linked. Metcalf also acknowledges that 'mini-hoards' may represent a smaller part of a larger, yet undiscovered, hoard. For example, the Milton Street hoard contains 60 coins which were discovered over a period of 13 years despite just 2 coins being discovered originally.[27] Some of the existing hoards of 2 or 3 pence may still fall into this category. Furthermore, some hoards now represented by just a few coins are known to be the survivors of far larger deposits which may have been dispersed before they could be fully recorded (as mentioned above). Although Metcalf was right to point out that 'mini-

[25] Williams, 'Dorset Geld Rolls', iii, 117.
[26] Metcalf, *Atlas*, 32.
[27] Thompson, *Inventory*, no. 270; Metcalf, *Atlas*, 32 and 163–64. On page 32 Metcalf refers to it as the 'Alfriston' hoard.

hoards' might be an agglomeration of single finds or part of a larger discovery, the term 'mini-hoard' does not offer enough insight on how small hoards should be analysed.

One way of considering the nature of smaller hoards, notwithstanding the problems just described, is to compare them to evidence of monetary value drawn from legislation. II Athelstan states that *ærest þæt mon ne sparige nænne þeof þe æt hæbbendre honda gefongen sy, ofer xii winter 7 ofer eahta peningas* ('first, no thief shall be spared, who is seized in the act, if he is over twelve years old and [if the value of the stolen goods is] more than 8 pence').[28] Later in the reign, VI Athelstan repeats this clause on stealing but replaces the 8d threshold with 12d.[29] These were clearly considered significant sums of money to enshrine in a law code; the thief, if convicted, would have faced the death penalty.

II Athelstan also states that no-one was permitted to buy livestock to the value of 20d without the presence of witnesses.[30] Cows were valued at around 20d during the tenth and eleventh centuries and Screen has drawn attention to the close association between cattle and coinage in the law codes since they were valuable and an obvious target for theft.[31] A hoard comprised of 20d would have been a considerable sum to most of the population.

In the eleventh century, II Cnut states that:

[28] II As 1.
[29] VI As 1.1.
[30] II As 9 and 12.
[31] Screen, 'Anglo-Saxon Law and Numismatics', 158–59.

nan man nan ðing ne bycge ofer feower peninga weorð, ne libbende ne licgende, buton mon habbe getreowe gewitnysse feower manna, sy hit binnan byrig, sy hit up on lande

[no-one shall buy anything over four pence in value, either livestock or other property, unless he have four men as trustworthy witnesses, whether [purchase be made] within a town or in the open country].[32]

Archbishop Wulfstan of York (1002–23), who played a leading role in writing the law codes for both Æthelred II and Cnut, copied Edgar's laws on the subject of exchange but added 'over four pence' himself.[33] Whether this was a reaction to an impression that more people had access to coins or that more small-scale theft was taking place is unclear. Nevertheless, 4d evidently reflects an important sum of money to be included in the law codes. This was the value of 1 sheep or even 4 small piglets. It is therefore conceivable that those on low incomes, such as the *gebur* of the *RSP* or the *bordar* and *cottar* of the Norman period, would have valued 4d highly and may have hoarded such sums for safe-keeping. Nevertheless, the possibility that finds of 20d or less may have been accidental losses or dropped purses remains.

### 6.3.2 Hoard vessels

Out of the 157 hoards in the corpus, 30 were either found in a container or were found with traces of a container. The Oakham hoard of Rutland was found in an earthen pot whilst the Sedlescombe hoard was found in a leather bag inside a small iron pot.[34] The hoards of Penrice, Glamorgan, and High Ousegate, York, were apparently found in wooden boxes whilst the Barrowby hoard of Lincolnshire was discovered inside the

[32] II Cn 24. Robertson's translation, *Laws of the Kings of England*, 187.
[33] Screen, 'Anglo-Saxon Law and Numismatics', 158.
[34] C. E. Blunt and C. S. S. Lyon, 'The Oakham Hoard of 1749, deposited *c.* 980', *NC*, 19 (1979), 111–121; Thompson, *Inventory*, no. 327.

shin-bone of an ox blocked up at each end with clay.[35] Hoards with evidence of containers may suggest genuine deposits as opposed to accidental losses because the coins look to have been deliberately stored.

However, if finds of just a few pennies were worth protecting by much of the population then small containers or purses made of leather or cloth would have sufficed to keep the coins together. Such material would have disintegrated in the soil between its deposition date and the present day and would therefore leave no trace of its existence. Dolley suggests that the Scaldwell hoard of Northampton may originally have been contained in a linen or leather bag due to the fine condition of the coins–the implication being that a bag could have protected the coins from chemical or physical erosion for hundreds of years.[36]

Of the 30 hoards discovered with evidence of a vessel, 26 are larger than 100d. These hoards may have warranted something sturdier than a cloth or leather bag to hold the coins. For example, the St. Mary at Hill hoard of London, found in two earthenware vessels, contained between 300 and 400 pence (£1 5s and £1 13s 4d).[37] This is not to say that cloth or leather purses were incapable of holding large sums of money. The Jubbergate I hoard of York contained around 600d (£2 10s) without record of a container and could originally have been stored in a purse that has since eroded.[38]

[35] G. C. Boon, Welsh Hoards, 1979-81 (Cardiff, 1986), 102–03; Pirie, *Coins in Yorkshire Collections*, xxxiv–xxxv; Metcalf, *Atlas*, 141.
[36] R. H. M. Dolley, 'The Find-Spot of the "War Area" Hoard of Pence of William I", *BNJ*, 28 (1955–57), 650–51.
[37] Thompson, *Inventory*, no. 250.
[38] Pirie, *Coins in Yorkshire Collections*, xxxv.

Nevertheless, there is a clear connection between high-hoard value and evidence of a sturdy container.

### 6.3.3 The presence of non-coin objects

At least 12 hoards in the corpus contain items other than English-struck pence. For example, the Bossall/Flaxton hoard of Yorkshire contained 'silver ornaments' and the Vale of York hoard contained 1 silver-gilt cup, 1 gold arm ring, 4 silver arm rings and 62 pieces of hacksilver.[39] These hoards were deposited in Viking-controlled Yorkshire during the 920s. The items in these hoards are representative of the bullion economy in operation in the Scandinavian North-Sea world where silver coins and objects would be used to conduct exchanges, often by weight.[40] It is, of course, entirely possible that the items in such hoards were also hoarded for safety.

Other hoards contain items of jewellery. For example, the Soberton hoard of Hampshire contained 2 gold rings and the St. Mary at Hill hoard of London contained a gold filigree brooch set with sapphires and pearls.[41] These may represent items deposited for safety because they were both discovered with relatively large numbers of coin, 259d and 350d, respectively. The size of these hoards and the possession of jewellery may indicate relatively wealthy individuals or families, and surviving wills of the period often make bequests of silver or gold to monasteries, churches or other beneficiaries (see page 37).

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[39] Thompson, *Inventory*, 162; G. Williams and B. M. Ager, 'Vale of York, North Yorkshire 2007', *NC*, 169 (2009), no. 64; also *PATAR* (2007), no. 217.

[40] G. Williams, 'Kingship, Christianity and Coinage: Monetary and Political Perspectives on Silver Economy in the Viking Age', in Graham-Campbell and Williams, *Silver Economy in the Viking Age*, 177–214 at 179.

[41] Thompson, *Inventory*, no. 250 and 334; Metcalf, *Atlas*, 183–84.

### 6.3.4 Coin types, control of the coinage and the monetary system

This section will attempt to answer two broad questions: How did the monetary system work both before and after Edgar's reform of the coinage in *c.* 973? What was the purpose of regular coin-type changes after *c.* 973? I shall therefore analyse the rationale behind governmental policies of coinage control and shall discuss the various models which attempt to demonstrate how the population both acted in and interacted with the monetary system.

#### *6.3.4.1 The monetary system, 924–c. 973*

Table E.1 in Appendix E summarises the hoard evidence for the period 924–*c.* 973. A number of publications have drawn attention to the sophisticated yet relatively ill-defined nature of the pre-Reform tenth-century English coinages and their stylistic *Two-Line*, *Circumscription* and *Bust* types.[42] They were all royal issues so I have allocated each coin in a hoard of this period to the issuing king rather than by their styles. I have also included hoards which contain Viking coins, so long as English coins of the period are present within them. Viking rulers controlled much of northern and eastern England between the late-ninth and the mid-tenth centuries until the English king Eadred defeated the final Norse ruler of York, Eric Bloodaxe, in 954. These Viking rulers also issued their own coinages. These range from imitations of English coins to unique types

[42] D. M. Metcalf, 'The monetary history of the tenth century viewed in the perspective of the eleventh century', in *Anglo-Saxon Monetary History*, 133–55; M. M. Archibald and C. E. Blunt, *Sylloge of Coins of the British Isles 34, British Museum V. Athelstan to the Reform of Edgar* (London, 1986); Blunt et al., *Coinage in Tenth-Century England*; K. Jonsson, 'The Pre-Reform Coinage of Edgar–The Legacy of the Anglo-Saxon Kingdoms', in *Coinage and History*, 325–46.

in the names of Viking rulers, such as Sihtric Caoch or Anlaf Guthfrithsson, or in the names of saints, such as St. Peter or St. Martin.

The English reaction to these Viking-struck coinages appears to demonstrate the power of the state at an early date by a refusal to tolerate their circulation within English-held territories. II Athelstan states that *þæt an mynet sy ofer eall ðæs cynges onweald* ('there shall be one coinage throughout the king's realm').[43] This desire to control closely the circulating currency was borne out in reality. Of the 8 hoards which contain Viking coins in this period, 5 have been found in counties associated with Scandinavian rule (Morley St. Peter in Norfolk, Vale of York and Coppergate in Yorkshire, Kirtling in Cambridgeshire and Tetney in Lincolnshire) and 2 have been found in areas strongly associated with Viking commerce (Chester, Castle Esplanade) or influence (Scotby, Cumbria).[44] The only hoard containing Viking issues discovered in English-held territory was the poorly recorded Kent hoard of *c.* 965 which may have included a penny of Eric Bloodaxe.[45]

The single-find evidence supports that of the hoards in this respect. Just 10 out of 177 find-spot-attributable single finds (5.4%) discovered in non-Danelaw counties in the period 880 to 954 were struck at mints under Scandinavian rule. Of these 10, just 7 (4.0%) were overtly Viking issues, that is to say not imitations of English types which

[43] II As 14. See also III Edg 8; VI Atr 32.1; II Cn 8–8.2.
[44] Counties under Scandinavian rule, commonly called the Danelaw, are taken as Yorkshire, Lincolnshire, Derbyshire, Leicestershire, Nottinghamshire, Rutland, Cambridgeshire, Northamptonshire, Buckinghamshire, Bedfordshire, Hertfordshire, Essex, Suffolk and Norfolk. For Morley St. Peter see T. H. McK. Clough, *Museums in East Anglia*, *SCBI*, 26 (London, 1980), 1–99; Vale of York: Williams and Ager, 'Vale of York', no. 64; Coppergate: Pirie, *Post-Roman Coins*, 56; Kirtling: http://www-cm.fitzmuseum.cam.ac.uk/dept/coins/projects/hoards/index.notes.html#BP137; Chester, Scotby and Tetney: Thompson, *Inventory*, nos. 86, 324 and 355.
[45] H. Christmas, 'Unpublished English and Anglo-Gallic Coins', *NC*, 1 (1861), 17–31 at 19–20.

may have been harder to identify as false money within the English kingdom.[46] The law codes may hint at the system which filtered these non-English issues. II Athelstan states:

Ond we cwædon þæt mon nænne ceap ne geceapige buton porte ofer xx penega; ac ceapige ðær binnon on þæs port-gerefan gewitnesse oððe on oþres unlygnes monnes, oððe eft on þara gerefena gewitnesse on folcgemote

[And we have declared that no-one shall buy goods worth more than 20 pence, outside a town; but he shall buy within a town, in the presence of the port-reeve or some other trustworthy man, or again, in the presence of the reeves at a public meeting].[47]

Transaction witnessing is addressed in the laws of every king who issued their own codes.[48] This clause was concerned with limiting the number of disputes over cattle purchases by involving the pillars of society as witnesses. Such men may have been trained to root out deficient coin from these transactions because clause 14 of II Athelstan states moneyers found guilty of issuing light or base coins were to have their hands cut off and fastened to the mint.[49] This suggests a system of quality control for the coinage which would have worked equally well for maintaining the condition of royal issues within England as it would have done for eliminating Viking coins from circulation.

A second characteristic of the pre-Reform hoards can be discerned. Lyon suggested that there was no complete recoinage between *c.* 887 and *c.* 973 in England because the Chester, Castle Esplanade hoard, deposited *c.* 970, contained coins of every English

[46] Single-find evidence taken from the EMC website on 3rd February 2012.
[47] II As 12. Attenborough's translation, *Laws of the Earliest English Kings*, 135.
[48] III Em 5; IV Edg 6; I Atr 3; II Cn 24; see also *LW* 45.
[49] II As 14.1. Attenborough's translation, *Laws of the Earliest English Kings*, 135.

king back to Alfred.[50] Table E.1 in Appendix E shows that 13 of the 29 hoards discovered between 924 and *c.* 973 contained at least three coin types. There are also 9 dual-type hoards during this period. This is in contrast to the hoards in table E.2, covering the period after Edgar's reform between *c.* 973 and 1035, which are predominantly of single-type. It appears that coins struck in the name of English kings before *c.* 973 circulated indefinitely and this may reflect the political role that coinage played in this period: they helped promote the message that English kings from Alfred's West-Saxon dynasty were the legitimate rulers of England, not Vikings.

#### *6.3.4.2 The monetary system, c. 973–1135*

In *circa* 973 King Edgar initiated a wide-ranging reform of the English coinage. Roger of Wendover's *Flores Historiarum*, written in the early thirteenth century, dates the reform to 975.[51] However, the fact that coins of this new type circulated widely suggests that Wendover's date, the year of Edgar's death, was too late for the reform. Therefore *c.* 973 is more likely and coincides with his coronation at Bath in that year. Yet one can tell from the coins themselves that a major reform had occurred. There was now a uniform design for all English coins. The obverse showed a standardised portrait of the king with his name around the circumference; the reverse displayed the name of the moneyer and the name of the mint. These designs were also changed every few years (there were to be over 50 changes of design (or type) between *c.* 973 and 1135). Finally, the number and distribution of mints markedly increased. Prior to the reform in Edgar's

[50] C. S. S. Lyon, 'Historical Problems of the Anglo-Saxon Coinage–(4) The Viking Age', *BNJ*, 39 (1970), 193–203 at 197.
[51] Roger of Wendover, *Chronica, sive Flores Historiarum*, ed. H. O. Coxe, 2 vols. (London, 1841), i, 416.

reign there had been 30–31 mints in operation; by the year 975 there were around 45, and this figure increased to 80 under Æthelred II.[52]

#### 6.3.4.2.1 The purposes of Edgar's reform

There are no documentary sources explaining the purposes of the reform. However, there are two principal possibilities. The first relates to King Edgar's coronation at Bath in 973.[53] This event celebrated the final consolidation of West-Saxon royal power over the whole of England, saving the far north. A demonstration of this power through the coinage is plausible because it represents a break with the heterogeneous regional coin types.

The second possibility relates to the discovery of silver mines in the Harz Mountains in the 960s which led to a dramatic increase in the volume of silver in circulation within England and north-western Europe (see pages 208–09 and 281–85). Sawyer argued that Edgar's reform was therefore a direct response to this influx of silver from the continent because the monarchy was seeking to tap into this new source of wealth.[54] Howver, there is no documentary evidence that reveals how the authorities profited from the monetary system until Domesday Book. Under Edward the Confessor it appears that across England moneyers paid an annual sum to the crown, perhaps the 1 mark of silver (160d) described at the Dorset mints, and a further payment of 20s (240d) *quando moneta vertebatur* ('when the coins were changed').[55] Under the Conqueror,

[52] Allen, *Mints and Money*, Appendix A1 on pages 382–95.
[53] *ASC* A, *s. a.* 973.
[54] Sawyer, 'The Wealth of England', 160.
[55] P. Grierson, 'Domesday Book, the Geld *de Moneta* and *Monetagium*: a Forgotten Minting Reform', *BNJ*, 55 (1985), 84–94; Allen, *Mints and Money*, 182–85; GDB 75a (Dorset B:1–4).

Grierson argued that the annual payment by individual moneyers was superseded by a new geld *de moneta* which was levied upon the borough as a whole. This tax would have drawn in more money to the government than the previous system. For example, the geld *de moneta* levied on Lincoln in 1086 was £75 whereas the number of moneyers in Lincoln in 1086 was around 8, which would have yielded just £5 6s 8d at 1 mark each.[56]

Grierson then argued that the *quando moneta vertebatur* fees were replaced by a tax called *monetagium* which was levied on the county.[57] A triennial tax called *monetagium* was, at the time, also being levied in Normandy where a fixed-weight coinage was in circulation. *Monetagium* was imposed by the dukes to compensate them from the profits they could have enjoyed from varying the weight of the coinage.[58] However, *monetagium* is only mentioned by name in Lincolnshire Domesday once and in Henry I's coronation charter of 1100 when *monetagium commune* was abolished.[59] Brooke suggested that geld *de moneta* and *monetagium* were the same tax and Allen has provided further evidence to support this.[60] There appears to be a reversion to the pre-Conquest system of individual moneyer payments during Henry I's reign because a 20s annual payment and a 20s payment at recoinages (*de torno monete*) is recorded for the mint of Stamford in the Peterborough survey of 1125–8.[61] It is possible, therefore, that the Normans were trying to streamline and depersonalise royal relations with the moneyers but that this faced a backlash and was abolished by Henry I. Nevertheless, the larger sums demanded by the

[56] GDB 336c (Lincolnshire C:27); Allen, *Mints and Money*, Appendix B, Table B.1.
[57] Grierson, 'Geld *de Moneta*', 90.
[58] T. N. Bisson, *Conservation of Coinage: Monetary Exploitation and its Restrain in France, Catalonia and Aragon (c. 1000–c. 1225)* (Oxford, 1979), 14–28; Allen, 'Mints and Money in Norman England', 5.
[59] GDB 336c (Lincolnshire C:23); Robertson, *Laws of the Kings of England*, 278–79.
[60] G. C. Brooke, 'Quando Moneta Vertebatur: The Change of Coin-Types in the Eleventh Century; it's Bearing on Mules and Overstrikes', *BNJ*, 20 (1929–30), 105–16 at 108–09;
[61] Allen, *Mints and Money*, 185; *Chronicon Petroburgense*, 166.

Normans in Domesday Book may suggest that there was plenty of coin to be extracted from the monetary system.

Such minting fees seem rather small. Metcalf has estimated that the annual and type-change payments made by the Anglo-Saxon moneyers would have generated between £200 and £250 per annum in 1066, inclusive of the earl's third penny.[62] Two recent estimates of royal income suggest that Edward the Confessor expected to raise around £8,100 per annum, including the profits of minting (see page 25). Therefore, £200–£250 represented just 2.5–3% of total income. Naismith has drawn attention to the fact that income from coinage during Henry II's early years comprised just £100 per annum which was less than 1% of royal revenue. He does, however, suggest that whilst these sums appear small, kings derived other benefits from the coinage such as its symbolic value in projecting royal power.[63]

Moneyer payments may not have been the only source of profit. It is possible that the mints also levied charges when customers used their services. There is no documentary evidence for this practice between the tenth and twelfth centuries, but in eighth-century Frankia Pippin III's cartulary of 754/5 stipulates that no more than 22 *solidi* (264d) should be generated from 1 pound by weight and that the moneyer should receive 1 *solidus* (12d) of this as his fee (4.5%).[64] Furthermore, in the thirteenth century the Tower mint charged a fee of 16d per pound (by weight) of which 10d (4.2%) went to the

[62] D. M. Metcalf, 'The Taxation of the Moneyers Under Edward the Confessor', in *Domesday Studies*, 279–93 at 290.
[63] Naismith, *Money and Power*, 44–46.
[64] Ibid., 43; *Monumenta Germaniae Historica*, Capit. I, no. 3, c. 5, p. 32 at http://www.dmgh.de/ accessed on 27th March 2013.

moneyer (brassage) and 6d (2.5%) went to the king and the earl (seigniorage).[65] Petersson has argued that, in the late Anglo-Saxon period, there was a consistent minting charge of one third on all coins brought into the mint and that the weight of the penny was lowered throughout the duration of the type.[66] The king and his moneyers could therefore make a numerical or tale profit on this bullion. Lyon also sees weight manipulation as a profit-making scheme. He proposes a system where coins of different weights could be exchanged at different mint-charge percentages. This would have produced steadily more coins as the weight standard declined throughout the type and Lyon argues that it would explain how coins of different weights could have circulated together.[67] Metcalf has shown, however, that although the general tendency was for coin weights to fall throughout a type, this was not always the case. He then suggests that the varying penny weights may relate to the standing of the customer bringing silver to the mint, for example, sheriffs or merchants.[68]

Metcalf has also revealed that coins struck in the west of England usually remained at a consistently high weight throughout a type whilst coins struck in the east of England fluctuated in weight the most.[69] The east-facing mints, which were the largest conduits for foreign bullion, would therefore have been the optimum mints at which to make a profit (see table 45 on page 287). Because of this, moneyers at the eastern mints may also have been under pressure to produce more coins, which may have caused variance in coin weights if the striking were hastily performed. The widest fluctuations in the weight of the penny occur between the *Reform* type in *c.* 973 and *Quatrefoil*

[65] Naismith, *Money and Power*, 43.
[66] Petersson, *Anglo-Saxon Currency*, 100–01.
[67] Lyon, 'Variations in Currency', 114 and 118.
[68] Metcalf, *Atlas*, 57 and 68–69.
[69] Metcalf, *Atlas*, see his discussion of each coin type between pages 103–190 and especially 133.

(conventionally dated 1017–23).[70] This is the period in which Spufford claims that the silver mines in the Harz Mountains were at their most productive.[71] It is also the same period when large tribute payments were made to the Danes.

It seems clear, however, that pennies were accorded the same monetary value regardless of their weight. Lyon remarks that 'the possessor of current coins seems not to have been unduly concerned about the varying weight of the currency'; and Metcalf claims that people had no choice about the weight of the coins that they received from the mints.[72] There is one exception: payments demanded by weight. For example, in Domesday Warwickshire the farm of the royal manors and the pleas of the shire were worth £145 by weight.[73] The king was probably taking advantage of his own system by ensuring that he received payments in pence at the target weight standard struck by mints in the west of England.

#### 6.3.4.2.2 How the monetary system functioned: *c.* 973–1135

Understanding the workings of the monetary system in this period is important in the context of this thesis for two reasons. First, it helps to interpret the numismatic evidence, especially in regard to the lengths of time that coins spent in circulation. This is crucial to the arguments surrounding the physical velocity of the coinage. Second, it may yield greater insights into how coins were used by the population.

[70] Petersson, 'Coins and Weights', 347.
[71] Spufford, *Money and Its Uses*, 95.
[72] Lyon, 'Variations in Currency', 115; Metcalf, *Atlas*, 57.
[73] GDB 238a (Warwickshire B:4).

Evidence relating to the Anglo-Saxon and Norman monetary system is sparse. The main documentary sources are: IV Æthelred, which mainly lists penalties against moneyers and traders for issuing and dealing in poor quality coins; Domesday Book, the evidence of which is described above on pages 316–18; and the *Dialogue of the Exchequer*, a late twelfth-century source which describes accounting practices during the reign of Henry II but which also refers back to the reign of Henry I. Scholars have, therefore, turned to the numismatic corpus for further evidence. Hoards are preferred to single coin finds in this regard because they often contain several coin types. This has allowed scholars to determine the correct sequence of coin types for the Anglo-Saxon and Norman periods (see note on page 300). A further significant pattern from the hoard evidence emerges. Hoard compositions between *c.* 973 and 1035 reveal that 38 out of the 50 hoards which contain coins struck between these two dates are of single-type, and 3 are of dual-type, which contrasts with the general pattern of multi-type hoards prior to this date (see tables E.1 and E.2 in Appendix E). Between 1035 and 1066 the number of single-type hoards as a percentage of the total number of hoards decreases, but after the Norman Conquest it increases once again.

This phenomenon has led to the belief amongst almost all scholars that there was a deliberate policy of recoinages (sometimes called *renovatio monetae*); in other words, the coin-using population were drawn to the mints in order to exchange their old or obsolete pennies for coins of the newer, current type. Older coins would, therefore, be deliberately removed from circulation, and this would account for the predominantly single-type hoards that we see after *c.* 973. Dolley proposed that after *c.* 973, Edgar and his administration intended that the coins in circulation would be changed at fixed six-year intervals. This occurred, with one delay in 1015, down to the death of Cnut in

1035, and constituted a complete recoinage, or legal demonetisation, with each replaced type becoming obsolete within a few weeks. In other words, it became illegal to use coin except that of the current issue. The expansion of the mint network across the country was designed to cope with such rapid recoinages. No man was to be further than 15 miles away from a mint when a recoinage was called so that he could convert his coins quickly.[74] Dolley used the hoard evidence to support his theory, since at the time of writing (1961) he was aware of only two hoards – Walbrook and Wedmore – which contained multiple coin types. The increase in the number of multi-type hoards after 1035 prompted Dolley to state:

'The pronounced tendency for hoards of the period 1042–66 to be 'multiple-type' is perhaps a sign that a breakdown was threatening the system of regular renewal of the coinage, and may also reflect a decline in public morality of which there is evidence in other aspects of English life. The late Anglo-Saxon hoards need to be considered in the light of those from the years after the Norman Conquest, for there is a tendency after 1066 to revert to hoards consisting of only one or two types'.[75]

Under Dolley's model, coins would have remained in circulation for up to 6 or 7 years between *c.* 973 and 1035, and for around 2 or 3 years after 1035. Furthermore, if recoinages were carried out within a matter of weeks then this may suggest that large numbers of the population handled coins and took them to the mints. Other methods of collecting coins to process them at the mints, such as through the collection of taxation via sheriffs and their agents, would presumably have taken much longer than this.

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[74] Dolley and Metcalf, 'Reform', 148–52; Dolley, 'Roger of Wendover's Date', 10. Petersson has also assumed a system of regular recoinages, but opted for a septennial system beginning in 975, *Anglo-Saxon Currency*, 87.

[75] Dolley and Metcalf, 'Reform', 158; see also Brooke, 'Quando Moneta Vertebatur', 114–15 for similar views.

Lord Stewartby has criticised Dolley's theory of fixed-recoinage dates. For example, he argues that *First* and *Second Hand* (dated by Dolley to *c.* 979–85 and *c.* 985–991, respectively) should be considered part of the same issue running the length of the 980s because *Second Hand* is too stylistically similar to *First Hand* for it to have effectively demonetised the latter. He also suggests a short circulation period for *Helmet* between *c.* 1004/5 and *c.* 1009 based on a low number of moneyers for the type and the fact that the preceding *Long Cross* issue appears to have circulated longer that *Helmet*.[76]

Stewartby also dismisses the notion that complete recoinages occurred within a few weeks and that obsolete coins ceased to be legal tender after that point. The Walbrook hoard contains very worn pennies of Æthelred II which suggests to Stewartby that they were used long after the introduction of newer types, as do the existence of many multi-type hoards of the Confessor's and Conqueror's reigns. Stewartby also draws attention to the law code IV Æthelred which states that 'no-one shall refuse pure money of the proper weight in whatsoever town in my kingdom it be coined', since it does not specify that the *current* type should be refused.[77] Stewartby therefore rejects the idea that mints were established after the reform in order to cope with regular, complete, legally-enforced recoinages. A closer analysis of mint locations reveals an administrative approach to their establishment. The large east and south-facing mints acted as conduits for foreign bullion. Small mints in west Wessex may suggest a link with the royal estates in the region. One mint per county (as a general rule) north of the Thames reflects the

[76] Stewart, 'Coinage and Recoinage', 460 and 471–79.
[77] Ibid., 464–66; IV Atr 6.

pattern of shire administration in these counties after their West-Saxon conquest during the tenth century.[78]

Stewartby proposes a theory of gradual recoinages in that royal exactions such as taxes, fines and compensations could only be paid in the new or current type. In doing so, he was echoing the views of Grierson who had proposed such a system.[79] Coins were thus changed over a gradual period but previous issues did not become illegal tender. Stewartby argues that this also fits the hoard evidence. Down to 1035, most hoards are of single or dual type which represents approximately 10 to 15 years of circulation. After 1035, many hoards contain 3 or 4 types which also represents around 10 years of circulation.[80] Stewartby draws attention to a passage in the *Dialogue of the Exchequer* to support his argument further:

Et nota quosdam comitatus a tempore regis Henrici primi et in tempore regis Henrici secundi licite potuisse cuiuscumque monete denarios solutioni offerre dummodo argentei essent et ponderi legitimo non obstarent; quia scilicet monetarios ex antique institutione non habentes undecumque sibi denarios perquirebant, quales sunt Norhumberland et Cumberland. Sic sutem suscepti denarii, licet de firma essent, seorsum tame nab aliis cum quibusdam signis appositis mittebantur. Reliqui uero comitatus solos usuales et instantis monete legitimos denarios tam de firmis quam de placitis afferebant.

[Note that from the time of King Henry I and in the reign of King Henry II, certain counties have been permitted to make payments [to the Exchequer] in any type of coin, provided that it was silver and matched the official weight, because, by ancient custom, they had no moneyers of their own, and so they got their coins from elsewhere; Northumberland and Cumberland are examples. Payments of this sort, even from a farm, were set aside from the rest and specially

[78] Stewart, 'Coinage and Recoinage', 466–67.
[79] P. Grierson, 'Numismatics and the Historian', *NC*, 2 (1962), i–xiv.
[80] Stewart, 'Coinage and Recoinage', 465 and 467–68.

marked. The rest of the counties paid only in lawful pennies of the up-to-date official currency, both for farms and for pleas].[81]

The implication of this passage is that the sheriffs of most counties were compelled to render payments to the Exchequer in coin from their own mint(s) in the current type. It follows that the flow of royal income into the treasury could, over a period of years, result in the effective demonetisation of earlier issues.

Lyon also favours a system of recoinage achieved by payments to the government. However, he further argues that witnessed payments in towns would have been exchanges where only current coin could be used. Hoards which contained obsolete coins could have been stores of wealth ready to be converted to the current type only when it was strictly necessary.[82] More recently, Allen has suggested that enforced payments to the king in the current type may have caused demand for the current type in private transactions, and Blackburn, echoing Lyon, has suggested that the payment witnessing in either town or country described in II Cnut could have assisted with recoinages.[83] Models which envisage more gradual recoinages also assume widespread participation of the population in the money economy: people needed to use the mints to obtain current coin for paying taxes, fines, compensation and for use in witnessed transactions. These models also see coin types in circulation for periods of up to around 10 years before 1035 and for up to around 5 years after this date, factoring in notional circulation periods as well as time allowances for more gradual recoinages. Indeed,

[81] fitzNigel, *Dialogus*, 14–15. Amt's translation.
[82] Lyon, 'Variations in Currency', 115.
[83] Allen, *Mints and Money*, 38; Blackburn, 'Welbourn hoard', 81; II Cn 24.

Brown has suggested that full recoinages may have taken between 1 and 2 years to complete based on the evidence of Norman hoards.[84]

Models which envisage gradual recoinages are more plausible than that of Dolley, chiefly because the surviving hoard material appears to show that possession of older coins was not illegal. However, significant questions regarding all the foregoing models remain. If, for example, a peasant took 5 old pence to a town to convert it into new pence to pay a tax or a fine, how would the moneyer extract any brassage and seigniorage from such a small amount of coins (assuming that this occurred)? This would be made even more difficult if the peasant's coins were of relatively light weight because the moneyer could not issue coins any lighter for fear of punishment (see page 314). The moneyer could have issued a smaller amount to the peasant, perhaps 4 to 4¾ new pence, but then the peasant would not have enough money to pay his tax or fine. Furthermore, the amount of effort to assess a minting fee on 5 pence may not have been in the moneyer's interest. Evidence from thirteenth-century pipe rolls suggests that the minimum amount of silver exchanged at the mints was 40d but that amounts of this size were unusual. Between 1220 and 1222 the average amount of silver exchanged at the Canterbury mint was £39 and at London £32, and during the 1250s and 1260s this rose to £66 for the two mints combined.[85] Sums of this size would have been much easier to extract minting fees from than sums in the region of 5d. It is possible that the peasant brought a separate, smaller minting fee-payment with him, for example some grain or eggs. However, this is building another layer of assumption onto an already uncertain model.

[84] I. D. Brown, 'Active Mints and the Survival of Norman Coins', *BNJ*, 67 (1997), 1–10 at 4–5.
[85] Cassidy, 'The Exchanges', 110–12.

It is possible that the monetary system between *c.* 973 and 1135 did not include a regular system of recoinage at all. Whilst it is clear that new coin types were issued every few years, it is conceivable that when this occurred the older types were not drawn back to the mints to be recoined into the new type. Rather, the apparent single-type nature of the currency, down to 1035 at least, may have been the product of large silver inflows to England (from trade) and outflows of bullion from England in the form of tribute paid to the Danes between 991 and 1018 and *heregeld* payments made to the English king's standing army between 1012 and 1051. When the size of the tribute and *heregeld* sums (see table 26 on page 197) are compared to the new estimates of the size of the currency between *c.* 973 and 1066, approximately *c.* £20,000–*c.* 65,000, these were considerable sums to be extracting. Though it is unclear how much of the tribute and *heregeld* payments were actually transferred to Scandinavia, the high numbers of English coin from this period discovered there would suggest that a large proportion did cross the North Sea. The English authorities would have been able to cope with such large payments due to the large inflows of foreign silver which would have been struck with dies of the current type. This could have contributed to the single-type nature of the hoards as much as any system of recoinage.

After the mid eleventh century there is a dramatic rise in the number of multi-type hoards. One reason for this may be related to the shorter lengths of time between the issuing of new dies after 1035/6 to every 2 to 3 years. However, it may also be related to the cessation of the *heregeld* in 1051 (though see pages 221–22). If it is assumed that a significant proportion of coin derived from the *heregeld* found its way to Scandinavia then older coins may have stayed in circulation much longer after the tax ceased. The

number of multi-type hoards then drops after the Norman Conquest and this may be as a result of English coin being transported to Normandy (see pages 222–24). Coins struck from new dies may then have replaced the older coins destined for France.

It is possible that the increase in the number of mints after Edgar's reform, especially under Æthelred II and Cnut, was less related to the demands of recoinage but may have been triggered by the need to extract silver from all parts of England to pay tribute and *heregeld*.[86] Here, silver plate may have contributed to the bullion and could have been melted down at mints across the country, as attested by Hemming of Worcester. Under Edward the Confessor, Freeman has drawn attention to the fact that there were between 50 and 63 mints at work in any given type but that just 35 mints were active in every type of the Confessor's reign, which is similar to the number of mints in operation during Athelstan's reign and under Edgar before the Reform.[87] This may suggest that many mints functioned for *ad-hoc* reasons which were not related to a system of regular recoinage.

Finally, regular type changes, without a system of recoinage, may still have benefitted the government in a number of ways. Firstly, a blanket change of dies would have forced the moneyers to buy new ones, the sale of which would have provided a source of income for the government. Secondly, regular die-changes may have built trust in the currency amongst the coin-using population to counter any dissatisfaction caused by the lightening of coins throughout a type. Thirdly, issuing new coin types circulated different political messages.

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[86] Allen, *Mints and Money*, Appendix A on pages 382–95. It should be noted, however, that post-Reform coins prior to the tribute and *heregeld* period (from *c.* 973 to *c.* 991) are not found in any large hoards which may affect the number of mints represented in the corpus of these coins.

[87] A. Freeman, *The Moneyer and the Mint in the Reign of Edward the Confessor, 1042–66*, 2 vols. (Oxford, 1985), i, 53 and statistical appendices in ii, 529–34; Allen, *Mints and Money*, 16; Blunt et al, *Coinage in Tenth-Century England*, table 20 on pages 256–57.

This model of the monetary system requires much extra research to sustain it, and if it is possible to refine then it may circumvent many of the uncertainties surrounding the recoinage and weight-variation debates, as well as potentially overcoming the difficulties surrounding regular, small-scale mint transactions by a large proportion of the population. Nevertheless, it shares the same lean documentary basis as all previous models, so it is designed to add to the debate rather than to replace any of the foregoing models. The lengths of time which coin remained in circulation remain relatively unaffected in this model. Although a lack of recoinages would mean that coins could circulate indefinitely (and some hoards suggest that they did), large amounts of wastage may have removed much of the older coin from circulation. It would still be reasonable to say that many coins could circulate for around 6–7 years before 1035, but that some coins could circulate for a lot longer than this. After 1035 coins may have continued to circulate for 2–3-year periods though after the cessation of the *heregeld* and before the Norman Conquest coins may have remained in circulation a lot longer due to the reduction in exports of coin.

## 6.4 The physical velocity of the coinage

Chapter 5 showed that the most effective way of measuring the physical velocity at which coins travelled was by distance-from-mint analysis as opposed to inter-regional flows. I have performed this same analysis upon the coins in the hoard evidence – something which has not been attempted before. I have used every coin with a definite mint provenance, including the English coins in the pre *c.* 973 Vale of York, Scotby and Coppergate hoards. This was in order to build up as holistic a picture of coin movement from the hoard data as possible. The results in Appendix F show the number of

*specimens* recorded in the hoards as opposed to the numbers of whole pence, cut halves and cut quarters. I obtained individual geographic co-ordinates for each hoard find spot and calculated the distance travelled by each coin in every hoard from their mints of origin using the measuring tool on the ArcMap GIS program in the same way that I did for the single finds (see pages 259–60).[88] I then grouped the distance-from-mint data together into zones of 25 kilometres radiating outwards from the hoard find spots to make the results comparable to the single-find evidence.

The figures in Appendix F demonstrate that coins found in hoards travelled widely throughout England from the tenth to the early-twelfth centuries. Roughly 1 in 3 of the total number of coins found in the hoards comes from a mint within 50km of the find spot (33.3%), yet 42.1% of the coins have been discovered over 100km from their mints of origin. This data correlates closely with the distance-from-mint analysis conducted upon the single finds in chapter 5 where 31.3% of the total number of coins were found within 50km of the mint and 43.5% of the coins were found at distances over 100km away. This suggests that hoard evidence can also be used to discuss the physical velocity and character of the currency in circulation when, conventionally, numismatists prefer to use the single-find evidence for this purpose.[89]

On a reign by reign basis, the data is somewhat lumpy. The hoard material from the reigns of Edward the Confessor and William I far outweighs that from any other monarch. Two factors affect this uneven distribution. First, the political and military turmoil of the 1060s is likely to have led to higher incidences of both the deposition and

[88] http://gridreferencefinder.com/#
[89] Metcalf, *Atlas*, 90–93; See also Blackburn, 'Welbourn hoard', 82–83; Naismith, 'The English Monetary Economy', 200 and 204.

the non-recovery of hoards (see below), and most of the data for Edward the Confessor's reign comes from this troubled period. It also explains why there are far more coins attributed to Harold II's 10-month reign in 1066 than there are to, for example, Harold I and Harthacnut's reigns between 1035 and 1042. Second, large hoards can affect the number of coins found per reign. For example, the Beauworth hoard of Hampshire greatly skews the figure for William I because 6,265 of the 6,901 coins of his reign come from this hoard. The overwhelming majority of coins in the Beauworth hoard come from the *Paxs* type but it has been argued that this may have been William II's first type rather than William I's last (see page 252). If true, the data in Appendix F would be skewed towards William II's 13-year reign, which would look highly monetised. Hoards should therefore not be used as reliable indicators of monetisation for particular periods.

Large hoards also affect our perceptions of physical coin velocity. The figures in Appendix F are broadly comparable to those of the single finds in terms of displaying the varying distances which coins travelled. However, there is a bias in the hoard data towards the number of coins found in the zone closest to the mint of origin. Beauworth lies 10 kilometres east of Winchester and contains 1,587 attributable coins from that mint. Sedlescombe lies 10 kilometres north of Hastings and contains 670 attributable coins from that mint. The Walbrook hoard contains 504 coins from the London mint and the Bishophill I hoard contains 378 coins from York. Together, these 4 hoards account for 3,139 of the 3,789 coins in this zone (82.8%). The Beauworth, Sedlescombe and Walbrook hoards contain many other coins from mints at greater distances, but the proportions of coins from the closest mints are still significantly larger than from any other.

It may be instructive to see the physical extent which coins in hoards travelled by providing a couple of maps. These show the locations and prominence of the mints represented in the hoards. Figure 18 shows the Shaftesbury hoard, Dorset, of *Long Cross* pence. The smallest dots on the map represent mints which produced less than 5 coins in the hoard. It is immediately obvious that most of the coins came from mints far away from the find spot. This not only demonstrates the long distances which coins could travel but it also shows that the most productive mints often played a dominant role in the composition of hoards. The total number of coins in the Shaftesbury hoard is 90 and the number of coins from York is 28, from Lincoln 13, from London 12 and from Chester 8.[90] These four mints represent two-thirds of the total.

[90] R. H. M. Dolley, 'The Shaftesbury Hoard of Pence of Æthelred II', *NC*, 16 (1956), 267–280 at 269–70.

**Figure 18: the mint-structure of the Shaftesbury hoard, deposited *c.* 997–1003**

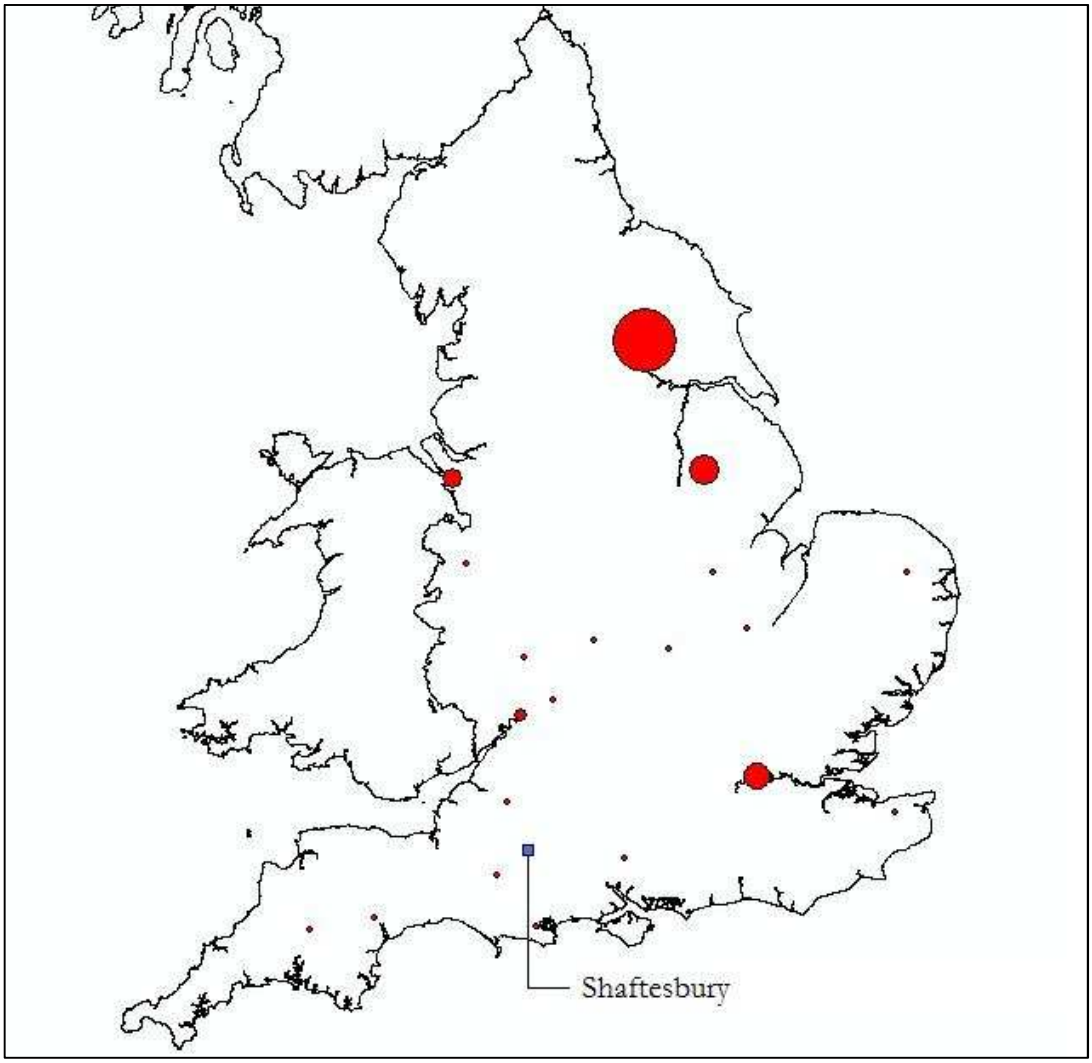
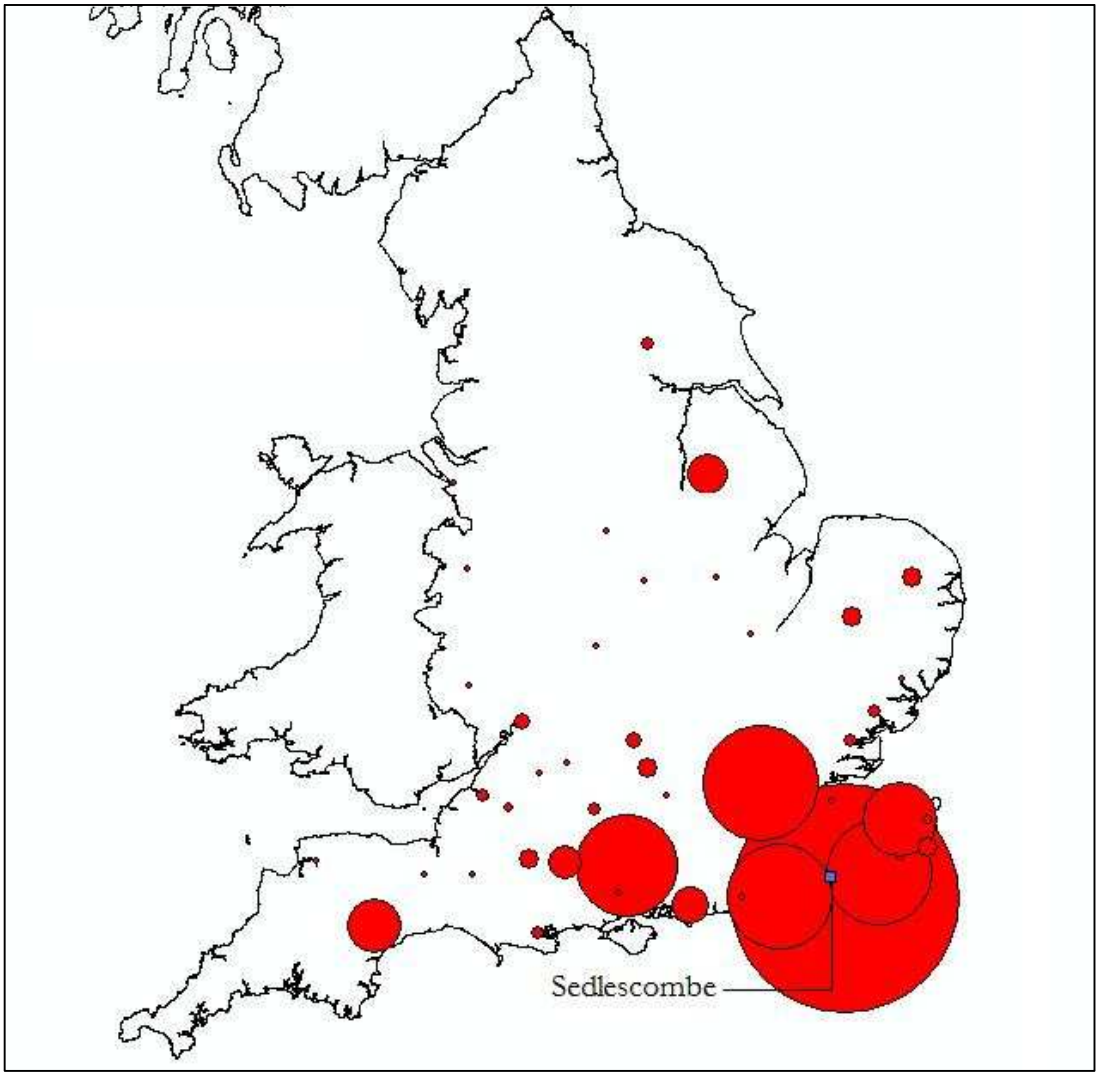



Figure 19 shows the hoard of Sedlescombe, Sussex. Here, the mint structure is dominated by local mints, especially Hastings which accounts for 670 of the 1,097 coins in the hoard (61.1%). The nearby mints of Romney and Lewes each contribute 46 coins to the hoard, whilst the slightly more distant London contributes 50, Winchester contributes 44 and Canterbury contributes 32.[91] This suggests that many of the coins produced by mints could remain local in their circulation. The figures in Appendix F confirm that localised circulation patterns appear to have been a reality though it is clear that local coins did mix with coins from more distant mints.

[91] Thompson, *Inventory*, no. 327.

**Figure 19: the mint-structure of the Sedlescombe hoard, deposited *c.* 1065**




## 6.5 The chronological distribution of the hoards

The summaries in Appendix E show a fairly regular hoard distribution across the period 924–1135. However, there are some concentrated patterns. Firstly, there are 12 hoards of the *Long Cross* type which were deposited around the turn of the millennium. Political and economic strife could lead to the deposition and non-recovery of hoards, and the *Chronicle* tells us that the Danes were raiding the south of England from Cornwall to Kent between the years 997 and 1001. The hoards of Arreton, Isle of Wight, Bramdean

Common and Cheriton, Hampshire, Hangleton and Harting Beacon, Sussex and Shaftesbury, Dorset may suggest a connection with these events.[92] However, many of the attacks were focussed upon Devon and no hoards have yet been discovered there from this period. Stewartby suggests that the *Long Cross* issue may have been particularly long-running, so these hoards may instead reflect its extended duration.[93]

The military and political turmoil of 1066 and the harrying of the North in 1069–70 almost certainly left marks in the numismatic evidence because 30 out of the 157 hoards (19.1%) were deposited between 1065 and 1070. The battles of Stamford Bridge and Hastings saw significant loss of life and it is possible that some of the hoard material represents unrecovered deposits of coin from those killed in battle. Furthermore, the *Chronicle* tells us that the Normans oppressed the 'unhappy people' and began to impose heavy taxes on the population as early as 1066 and 1067.[94] Perhaps some hoards of this period were unrecovered attempts to hide cash from tax collectors.

A further striking pattern is discernible in Yorkshire between 1068 and 1070 since the hoards of York Minster, Rotherham, Bishophill II, High Ousegate, Jubbergate I, Baile Hill, Bierley, Bramham Moor and Middleham all terminate in the Conqueror's first or second coin types.[95] In 1069, the Northumbrians submitted to Edgar Ætheling at York after the killing of the Norman earl of Northumbria, Robert de Comines, at Durham. William marched north to defeat Edgar, slaying 'several hundred' and plundering the

[92] *ASC* E *s. a.* 997–1001; F. Basford and G. Williams, 'Arreton area, Isle of Wight, 2007', *NC*, 169 (2009), 353; G. Williams, 'A Hoard of Æthelred II 'Long Cross' Pennies from Bramdean Common, Hampshire', *BNJ*, 68 (1998), 143–44; Metcalf, *Atlas*, 126, 254 and 257; R. H. M. Dolley, 'Three forgotten English finds of pence of Æthelræd II', *NC*, 18 (1958), 97–107 at 104–07; Dolley, 'Shaftesbury Hoard', 269–70.
[93] Stewart, 'Coinage and Recoinage', 460 and 478.
[94] *ASC* D *s. a.* 1066 and 1067. See also Baxter, 'Lordship and Labour', 98–114.
[95] Pirie with Archibald, 'Post-Roman coins', 530; Thompson, *Inventory*, no. 318; Pirie, 'Coins in the Yorkshire Collections', xxxiv–xxxvi; Allen, *Mints and Money*, 458; Metcalf, *Atlas*, 180.

city. Later in the year, Edgar Ætheling returned and was met by earl Waltheof and a Danish host. They proceeded to storm York, destroy the castle, slay many of its inhabitants and carry off booty. William marched north again, laid waste to the shire and remained in the north all winter.[96] The unrecovered hoards of this turbulent 2-year period may suggest the deaths of their depositors or possibly the fact that many people were afraid to return to the ravaged city and shire.

Many hoards contain coins of Henry I's final type 15 (see tables E.5 and E.6 in Appendix E). Henry I died in 1135 and left an uncertain legacy. In 1127, he had made his barons swear an oath to support his daughter Matilda as his heir.[97] However, Stephen of Blois succeeded to the throne in 1135 and a strained political period ensued which led to civil war between the two from 1139 to 1153.[98] Even before Henry I's death, there may have been a sense of future insecurity which led people to start protecting their money in hoards. On the other hand, type 15 appears to have been a long-running type. Blackburn has argued that Henry I's monetary reforms of 1125 jettisoned the introduction of new dies every few years in favour of a fixed type coinage which ran for 10 years until his death.[99] The numerous hoards containing type 15 pence could therefore have been a product of this.

## 6.6 The geographical distribution of the hoards

Figure 20 illustrates the precise locations of the hoards of this period. The legend referring to the hoard sizes is inspired by the discussion of this issue in section 6.3.1.

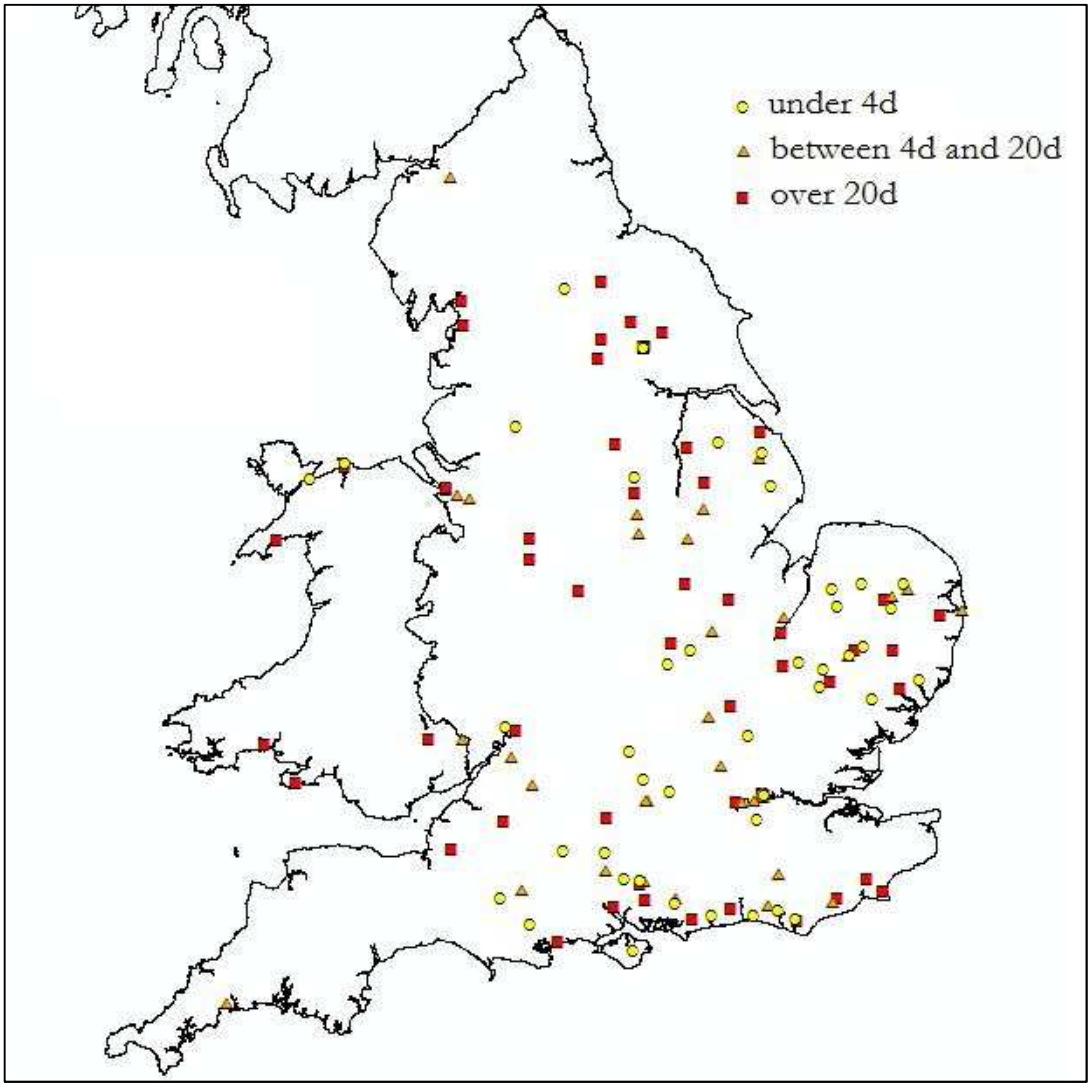
[96] *ASC* D and E *s. a.* 1068 and 1069.
[97] *ASC* E *s. a.* 1127.
[98] R. H. C. Davis, *King Stephen, 1135–1154* (London, 1990), 22–33.
[99] Blackburn, 'Coinage and Currency Under Henry I', 64–76.

The distribution of the hoards is broadly spread across England, though concentrated towards the east and the south. This suggests that from the tenth to the twelfth centuries coins penetrated most parts of the kingdom to a significant degree. It is clear from the map that coins were not restricted to the towns in which they were struck. This does not necessarily prove that coins were *used* in the countryside since holders of coin would presumably have conducted many transactions within towns as stipulated in the law codes. However, II Cnut states that transactions over 4d should not be made without witnesses *sy hit binnan byrig, sy hit up on lande* ('whether within a town or in the open country') which may point towards non-urban usage of coins.[100]

Two areas of coastal distribution are identifiable. One follows the coastline from Lancashire round to south Wales and the other skirts the English coastline from Hampshire to Kent. The south coast of England also had many small mints, possibly stimulated by the volume of trade passing through the English Channel.[101] Along both coastlines, the hoards may have been deposited by merchants in an emergency or left there whilst they were away on business. However, hoards such as Sedlescombe may have been deposited along the south coast during the Norman invasion of 1066.

[100] II Cn 24.
[101] Gardiner, 'Shipping and Trade', 92.

**Figure 20: hoard find spots, 924–1135**



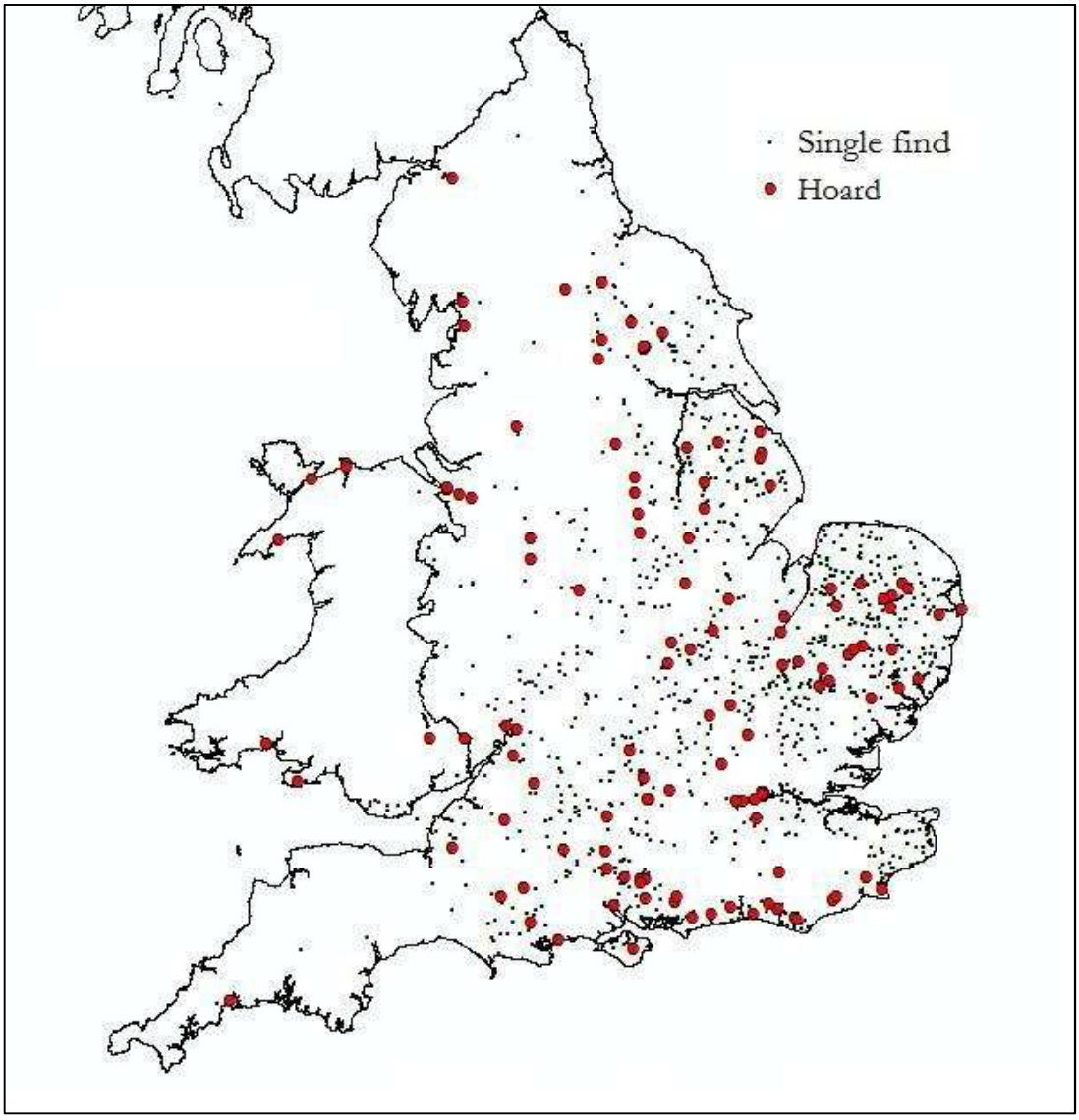

Hoards of less than 4d and 20d in value tend to have been found in southern and eastern England. One is tempted to associate this pattern with the distribution of population in 1086 as discussed in chapter 5. If the *villani*, *bordarii* and *cottars* were using coin then hoards containing sums of up to 20d would represent significant value. Therefore, the peasantry may have hoarded small numbers of coins to protect their wealth. Figure 21 shows the distribution of hoards and single finds together which may show a close relationship between money in use (single-find accidental losses) and money protected or saved (hoards).

The discovery of large hoards (over 20d in value) across England and Wales suggests that coin penetrated most corners of the kingdom but it may also be, in part, down to their physical size: it is easier to find or disturb a large amount of coins than a hoard of just 2 or 3 pence. The fact that most of the larger hoards were found prior to the advent of metal-detectoring supports this point further.

The extremities of the country, such as Northumbria and Cumbria in the far north and Devon and Cornwall in the south-west, display fewer hoards than the more centrally lying lands of England. This may suggest that parts of England were less monetised than others. York was the most northerly lying mint in England until the appearance of the Durham and Carlisle mints in the Norman period. The remoteness of Northumbria and Cumbria to York may suggest that a coin-based economy had struggled to take root in those parts. Furthermore, it is unclear just how far English royal power reached the far north of England before the twelfth century. The northern counties are not covered in Domesday Book and the political affinity of the region was ambiguous before 1086, with the English, Vikings and Scots all active in the area.[102] There may never have been a chance for English royal government, with its coin-based taxation demands, to establish itself there.

[102] Stenton, *Anglo-Saxon England*, 331–33 and 503.

**Figure 21: hoard and single-find distributions, 924–1135**




Devon contained four mints in the Anglo-Saxon and Norman periods (Barnstaple, Exeter, Lydford and Totnes) and Cornwall one (Launceston), which suggests that Anglo-Saxon government had established itself in the south-west of England to some degree. However, the conquest of Dumnonia from the seventh century may have disrupted a more archaic form of society, and perhaps the use of coin was not as advanced in the south-west of England as it was elsewhere.[103] The other reason for the

[103] Campbell et al., *The Anglo-Saxons*, 51.

lack of hoards in these areas may relate to the extent to which they have been searched by metal-detectorists. Regions such as East Anglia may be overrepresented in the detector-based evidence compared to areas such as south-western England.

## 6.7 Conclusion

The principal contentions of this chapter can be summarised as follows. First, the available evidence suggests that much of the population was involved in hoarding, not just the mercantile and landowning elite. About half (51.6%) of the hoards in question contained 20 pence or less, and 28.7% contained 4d or less – sums of coin which could plausibly have been held by the peasantry and which would have constituted substantial amounts to them. The geographical distribution of the hoards further adds to this contention since most of these lower-valued hoards correspond with the single-find distribution, which suggests monetary use, and Darby's population distribution map of 1086. Metal-detectoring has largely augmented our knowledge of smaller hoards and future discoveries will continue to contribute to our understanding of monetary use. However, one should always be aware of the evidential biases which detectoring may bring.

Second, the physical velocity of the coins found in hoards is similar to that found of coins found singly, mirroring and reinforcing the conclusions of chapter 5 to the effect that coins could and did move with rapidity around the English kingdom between the tenth and twelfth centuries. Two of the major factors creating this physical velocity were trade and royal and aristocratic incomes, and the hoard evidence remains consistent with this theory. The hoard evidence may also suggest, in some cases, that

coins could remain local to their mints or regions of origin. A potential implication of this fact upon coin use may be that there was a relationship between the mint town and its immediate hinterland. This in turn may suggest that many of those providing raw materials and food for the town were returning with coin to the surrounding countryside. Such people may have been the manorial reeves or beadles who transported the demesne crops to towns on behalf of their lords, but they could also have been peasants of all categories who were exchanging the agricultural surpluses from their holdings for coin.

Third, the analyses of the monetary system and of recoinage offered by Stewartby and Lyon are more plausible than those of Dolley. The former allow for much more gradual recoinages than the latter and this, I believe, is more consistent with the hoard evidence. My suggestion of a monetary system which lacked a regular recoinage mechanism marks a significant break from all previous models. However, it merely adds to the debate on the monetary system and requires a good deal more research to substantiate it. As such, it does not seek to replace any of the existing models.

## Conclusion

The foregoing chapters cast fresh light on the uses of money in the English economy between the years 924 and 1135. The introduction established that members of the landholding elite, merchants and certain royal agents came into contact with coin on a regular basis. Estate revenues and taxation were, at least in part, collected in – or converted into – coins. This money was then spent in a variety of ways, ranging from the purchase of items for conspicuous consumption and gift-giving to running a household and paying for armies. Coins were also regularly used to conduct long-distance and international trade. One of the principal problems which this thesis sought to address therefore, is the question as to how far the peasantry used coin during this period.

Chapter 2 assembled a large body of evidence relating to the monetary values attributed to livestock, horses, food and other material goods. The more plentiful livestock evidence suggested that values were often fairly static across the two-hundred-year period of this thesis. However, the quality of the objects being purchased could affect their values, as poor weather could affect crop prices due to diminished harvests. Some objects and movables such as hawks, valued between £6 and £10 (1,440d and 2,400d), and warhorses, valued between £2 and £3 (480d and 720d), would have been affordable only to the rich. However, other goods such as sheep, valued at *c.* 5d, oxen, valued between 24d and 36d, salt, valued at 1d per 100–150 kg and a harrow, valued at 16d, would have been affordable to a much greater proportion of the population. Peasants routinely consumed, owned, exchange and traded most of these goods in order to work their land and to subsist; so this in itself constitutes strong evidence that the use of coin

reached deep into rural society. The compilation of this evidence also refutes the suggestion by Bolton that a reasonable pricing index for the Late Anglo-Saxon and Norman period (and the implications that follow from it) is not possible to create.[1]

Chapter 3 showed that peasants typically generated incomes worth dozens of pence per annum, and this strengthens the case for supposing that they could afford to buy such goods. This chapter further demonstrates that peasants throughout the social spectrum, from the relatively free to the highly dependent, were expected to pay tax to royal agents, dues to the church, and rents to their lords in coin as well as in labour and in kind. The documentary sources also demonstrate that coin circulated at relatively low levels of society in many other settings: amongst townsfolk who brewed beer and butchered meat; amongst traders who sold dairy products and who carted salt; and amongst skilled workers who made horseshoes. Coin was also plainly used by much wealthier individuals, such as warriors in the king's fyrd, lithsmen in the king's fleet, and international merchants who paid toll at the ports of entry and who spent their freshly struck English coins across the country.

A possible objection here might be that the documents which record such small-scale transactions may have attributed a notional value to them, expressed in monetary terms, without any expectation that coins would physically be used to complete such transactions: men were simply expected to exchange goods *of equivalent value* to, say, 5 pence to buy a sheep. However, chapter 3 identifies a range of documents which specifically and carefully distinguish between payments made in labour, kind and coin.

[1] Bolton, *Money in the Medieval English Economy*, 113.

These documents leave no room for doubt: coin was used, alongside barter, throughout the social spectrum. The cumulative of this evidence is such that where other documents assign monetary values to small-scale transactions, it is a reasonable presumption these were routinely made using coin. The sources which allude to a 'pennyworth' of food, wax or plough alms similarly suggest that the Anglo-Saxons and Normans were able to differentiate between payment in coin and kind to the value of coin. It is true that a large proportion of the documentary evidence relates to payments and services due to lords or to the state, and this is the case for thinking that peasants needed to obtain coin partly in order to pay their social superiors.[2] However, the fact that a large number of goods and services lay within the financial reach of relatively modest peasant farmers suggests that their use of coin was regular and varied, and not limited to the payment of rent and taxation.

Of course, not all transactions would have been made in coin. In many instances coin would have been an impractical means of exchange. A penny was considerably more valuable than, say, a chicken, a clutch of eggs, a loaf of bread, or a meal and a pint of ale in an alehouse. Fractions of pence would have helped the currency in circulation work harder. For example, a halfpenny could have helped Godric remit his 7½d rent for the virgate he held at Trowle, Wiltshire, and a farthing would have purchased around 10 herring. Nevertheless, there were limits to the use of coin in this period, and barter in products such as grain, eggs, chickens and vegetables must have played an important role as a means of exchange for very low-level transactions. Credit may also have provided a solution to some transactions, for instance in the alehouse setting I

[2] Britnell, *Commercialisation*, 30; Fleming, 'The New Wealth', 18; Bolton, *Money in the Medieval English Economy*, 128.

described in chapter 2 (see page 85): tabs for individuals may have run until a certain amount of ale had been consumed.

Was there enough coin in circulation to cover the majority of transactions? Chapter 4 has reviewed the evidence underpinning estimates of the extent of mint output and the size of the currency (not, of course, the same thing). These estimates suggest that, although both the volume of mint output and the size of the currency is likely to have varied considerably at different times between *c.* 973 and 1135, the value of coin in circulation was likely to have fluctuated between *c.* £20,000 and *c.* £65,000 throughout the period (see pages 231 and 234). It will be recalled that my preferred estimate for the size of GDP is approximately £400,000–£450,000 (see page 191). On this basis, the currency in circulation represented between 5% and 10% of GDP in the late eleventh century. For *c.* 1300, current estimates of the size of the circulating currency range between £1,100,000 and £1,400,000 which represented approximately 20–30% of GDP. The gulf between the two currency-size estimates might suggest that coin use prior to the late twelfth century was limited. However, the value of the penny between the tenth and the twelfth centuries was 4 to 6 times higher than during the thirteenth, and the workmanship of the Anglo-Saxon and Norman penny was usually higher than its Plantagenet counterpart. Furthermore, the coinage in circulation between *c.* 973 and 1135 served a population which was possibly 2 to 3 times lower than it was in the thirteenth century.[3] This means that the value of the coinage in circulation per head of the population remained broadly similar between the eleventh and fourteenth centuries. So far from being an inadequate coin supply, the currency appears to have coped well enough with the demands placed upon it throughout this period. Whatever the case, the

[3] Britnell, 'Commercialisation and Economic Development', 11–12.

estimates of currency-size based on single finds are consistent with the pattern of widespread use of coin at lower levels demonstrated in the documentary sources.

This conclusion derives further support from analysis of the geographic distribution coins found singly and in hoards. Both sets of evidence demonstrate that coins moved over short, medium and long distances and that they moved quickly. Coins which were dropped or deposited far away from their mints of origin may well have been carried there in the context of long-distance trade. However, chapter 5 suggests that royal administration also had a significant impact on the movement of coin, since the management of taxation and royal demesne both necessitated the collection and distribution of large volume of coin.[4] So too did the management of the great estates of the secular and religious elite. Since coins have been found tens and hundreds of miles away from their mints of origin, this suggests that there was high demand for it; coin moved the distances it needed to in order to be used. The fact that there was only enough coin to cover between 5 and 10 per cent of all transactions in a given year should not, therefore, be taken as evidence that the majority of transactions were effected without coin. On the contrary, all this shows is that coin had to work hard and move quickly within the economy if it were to facilitate a significant share of all transactions – and that is precisely what the distributions of single-finds and hoards found in England reveal. The fact that English coinage moved within the economy with a high physical velocity is consistent with the hypothesis that the economy was monetised to a significant degree.

[4] Metcalf, 'Continuity and Change', i, 23–24; *Atlas*, 42 and 279.

Coins that moved shorter distances may have done so for a number of reasons. Firstly, it should be remembered that a coin dropped or deposited close to its mint of origin could have travelled around the country before being dropped or deposited by chance near to where it was struck. Secondly, coins had a higher chance of being lost close to its mint of origin because that is where their journey into the economy began. Merchants, agents of royal government, and of elites no doubt suffered the loss of coin, or chose to deposit them, close to mints. However, since peasants regularly used coin (at the very least to pay their rents and taxes) and may have needed to travel into towns containing mints to obtain it, there is a connection between coins, towns and their immediate rural hinterland where many peasants would have lived. The fact that a significant proportion of single-finds are found close to the point of mint is therefore consistent with the hypothesis that there was strong demand for coin struck locally from local populations.

So too is the fact that coins are frequently found in rural settings, and not just in the immediate vicinity of mint towns. (There is always the suspicion that a coin found in a field close to a town may have been lost in the town and taken to nearby fields in a cartload of manure).[5] Further, there is a strong connection between the single-find and hoard patterns and population density, which suggests that peasant demand for coin had a significant effect on its distribution. These patterns should, of course, be tempered by distorting influences such as metal-detectoring success attracting further detectoring activity, permissions to search fields, relationships between detectorists and find-recording bodies, and the topography of the landscape. Coin is not found in great number everywhere, for example in the north-west of England, and this may be a

[5] Metcalf, *Atlas*, 14.

product of low population settlement. However, coin is also not found in great number in Devon, an area of relatively dense population in certain areas, which may suggest that different systems of economic exchanges, perhaps based on barter, were more strongly entrenched here. Nevertheless, the findings of this thesis weaken Britnell's argument that coin found it difficult to penetrate the rural economy.[6]

Did peasants routinely use coin throughout the year, or did they use it only occasionally to pay rent and tax? The income of many peasants was such that they would have enjoyed small surpluses after the deduction of compulsory payments to kings, lords, and religious houses: and it is probable that this surplus entered the monetary economy in the form of coin used for local exchange and trade. The inherent characteristics of coin – durability, portability, divisibility and cognizability – made it as useful and valuable amongst the peasantry as amongst the elites. Equally, coins could have been saved rather than spent which may explain the ever growing number of small hoards being uncovered by metal-detectoring activity. Perhaps Cnut's law code was acknowledging prevalent rural coin use when it describes trade occurring in the countryside as well as in towns.[7]

The fact that the documentary evidence is uneven (being infinitely more rich for the period from 1066–1135 than it is for the period from 924–1066) makes it difficult to identify patterns of continuity and change in coin use throughout the period as a whole. The fact that there is no discernible difference between the find-spot distribution of the period 924–*c.* 973 and that of *c.* 973–1135 is, however, suggestive. Coins from both

[6] Britnell, *Commercialisation*, 47–50.
[7] II Cn 24.

periods are found in similar urban and rural contexts. It seems likely that coins were used in broadly similar ways throughout the period although they appear to have circulated in smaller volumes in the early tenth century. It is also probable that this was not so much the beginning as the revival of a monetised economy. As Naismith has shown, the scale and intensity of monetary use in the eighth century was as great, perhaps greater, than in the eleventh.[8]

It may be appropriate to end by revisiting Bolton's recently published *Money in the Medieval English Economy, 973–1489* and Sawyer's 2013 publication *The Wealth of Anglo-Saxon England* in the context of the findings of this thesis. Bolton claims that the English economy from 973–1158 'was a "monetised" rather than a "money economy"' (see also pages 44–45).[9] It will be recalled that Bolton takes Late-Anglo-Saxon England as his starting point, and compares the size of its currency and the sophistication of its society and economy to the immediately succeeding period and finds it wanting. It is undeniable that the size of the circulating currency in the thirteenth, fourteenth and fifteenth centuries was much larger than in the tenth, eleventh and twelfth, and that greater documentary evidence for the later period depicts a well-developed market economy. However, I feel that Bolton overstates the case, and that the distinction between a 'monetised' and a 'money economy' is not always entirely clear. His discussion of the numismatic evidence for the Anglo-Saxon and Norman period is focussed on estimates of the size of the circulating currency with little discussion of single finds, hoards and the impact of the EMC and PAS databases that have greatly influenced the findings and conclusions of this thesis. If there were greater

[8] Naismith, 'The English Monetary Economy', 201–04.
[9] Bolton, *Money in the Medieval English Economy*, 134.

consideration of the data available from these two databases then perhaps a more nuanced view of the Anglo-Saxon and Norman money economy may have emerged.

Taking Late Anglo-Saxon England as his end point, Sawyer argues that the selling of produce by modest peasants for cash during this period 'does not mean that England then had a money economy, but it certainly had a great deal of coin in circulation'.[10] While Sawyer's arguments for the pre-twelfth century development of the wool trade remain very much debatable, it is almost beyond doubt that England was drawing in large quantities of silver from the continent during this period in exchange for exports, as was discussed in chapter 5. Furthermore, Sawyer's depiction of a productive and socially and economically developed England in the Late Anglo-Saxon period finds agreement in this thesis, especially in chapters 1 and 3, which shows that a precocious and highly centralised state was in existence well before the thirteenth century (see also pages 17–18).[11] Like Sawyer, I would not want to overstate the role that coined money played in this economy, and notions of a 'money economy' must always be tempered with the crucial roles played by other forms of economic transactions, such as barter, credit and labour services. Nevertheless, Maitland famously concluded *Domesday Book and Beyond* by looking forward to a time when it would be possible for us to imagine 'common thoughts about common things'.[12] We may now feel confident that the use of coin in the long eleventh century was one such thing: coins ordinarily passed through ordinary people's hands.

[10] Sawyer, *Wealth*, 31.
[11] For similar views, see J. Campbell, 'The Late Anglo-Saxon State: A Maximum View', in J. Campbell (ed.), *The Anglo-Saxon State* (London, 2000), 1–30; and Campbell, 'Was it Infancy in England', 179–99.
[12] Maitland, *Domesday Book and Beyond*, 520.

## Appendix A: Weights and capacities in Domesday Book

Several objects and movables in Domesday Book are given in arcane units of measurement. These units require analysis of their weight and capacity in order to more precisely assess the value of the commodity they were measuring. A summary of these weights and capacities, along with their commodities, is given in table 46:

**Table 46: weights and capacities in Domesday Book and their monetary equivalents**

| Unit of Weight/ Capacity | Object | Price in d | Form of Price | Place |
|---|---|---|---|---|
| *Amber* | Salt | 1 | 110 *ambers* of salt or 9s2d | Washington, Sussex |
| *Mitta* | Salt | 1 | 60 *mittae* of salt for 5s | Much Marcle, Herefs |
| *Summa* | Salt | 1 | 9 *summae* of salt, or 9d | Marden, Herefs |
| *Sester* | Salt | 0.5 | 40 *sesters* of salt or 20d | Thornbury, Gloucs |
| *Sester* | Honey | 15 | A *sester* at 15d | Warwick, Warks |
| | | 12 | 16 *sesters* of honey or 16s | Wiltshire |
| *Wey* | Cheese | 38.8 | 10 *wey*s of cheese worth 32s4d | Buckland, Berks |

N. B. This annex will not be a comprehensive discussion of all the weights and capacities appearing in Domesday Book as only those which have monetary values will be covered. All mentions of the pound (lb) will refer to the avoirdupois pound unless otherwise stated. This was a commercially based pound introduced to England in the late thirteenth or early fourteenth century primarily for weighing wool and was almost certainly based on the Bruges pound of 7,000 Troy grains (0.454 kg). By 1400 its ounce had become recognised as the 'operative ounce' and since then it has become the

standard unit of imperial measurement in Britain.[1] It will therefore be used to calculate the weights of late-thirteenth century evidence onwards and also where modern historians have given equivalent weight comparisons in modern pounds. One avoirdupois pound weighs 0.454kg and 1kg weighs 2.2lb.

**Summa**

*Summa* is a Latinised version of the Greek word *sagma*, meaning pack-saddle, and was the amount a packhorse could carry on its back.[2] Some pre-Domesday evidence of the existence of the *summa* comes from the negotiations between Ealdorman Æthelred and Æthelfled, and Werferth, with regard to land at Sodbury, Gloucs., sometime after 884. In the text is written *butan Þæt se wægnscilling 7 se seampending gonge dæs cyninges handa swa he ealning dyde æt Saltwic* ('but the wagon shilling and the *summa* penny are to go to the king as they always have done at Droitwich').[3] The wagon shilling refers to the toll on a cart of salt of a Mercian shilling of 4d, and the *summa* penny refers to the 1d toll on a pack-horse load. The closest chronological evidence to Domesday Book after 1086 which sheds light on the *summa* is Richard I's Assize of Measures of 1196, which states:

Constitutem est quod omnes mensurae totius Anglie sint eiusdem quantitatis, tam de bladis, quam de leguminibus, et de rebus consimilibus, scilicet, una bona summa equi.

[Let it be established that all measures over the whole of England are of the same quantity, such as grain and beans and all similar things, namely, a good horse-load].[4]

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[1] R. D. Connor and A. D. C. Simpson, A. D. Morrison-Low (ed.), *Weights and Measures in Scotland: A European Perspective* (Edinburgh, 2004), 150–51.
[2] Connor, *Weights and Measures of England*, 149; R. Zupko, *A Dictionary of Weights and Measures for the British Isles: The Middle Ages to the Twentieth Century* (Philadelphia, 1985), 369.
[3] Harmer, *Select Documents*, 22–23 for the text, 55 for the translation.
[4] *Chronica Magistri Rogeri de Houedene,* ed. W. Stubbs, 4 vols. (London, 1871), iv, 33–34. My translation.

These two pieces of evidence pose the question, how much was a horse-load or how much could a packhorse feasibly carry? Estimates have been made. Seebohm used Harrison's 1577 *Description of England in Shakespeare's Youth* to state that a packhorse could carry 4 hundredweight (cwt), which is approximately 203 kg. However, in the sixteenth century some of the great warhorses had begun to be used on the farm and this may have had an impact on the amount that a so-called 'packhorse' could carry.[5] Others have opted for lower figures. Thomas Willan has suggested that a sixteenth-century pack-load normally weighed just 2 cwt (102 kg). He claims that any more than this may have been too burdensome.[6] David Hey uses evidence from a House of Commons committee meeting of 1758 which cites a Yorkshire based manufacturer telling the committee that 240 pounds was the weight of a normal horse-load (109 kg).[7] Albert Leighton follows Clive Day's unreferenced assertion that a packhorse could carry between 220 and 330 lbs on its back (100–150 kg).[8]

Philip Grierson has also discussed the Domesday *summa*. Identifying it as a horse-load, he uses a passage from Domesday Nantwich which states that fifteen boilings of salt make a *summa*. Grierson then asserted that 1 boiling weighed around 16 lbs, though he provided no reference for this.[9] If we do follow this line, the *summa* would have weighed a metric conversion of approximately 109 kg. Grierson also draws attention to a fourteenth-century *summa* from Devon which weighed 2 cwt., or 224 lbs (102 kg).[10]

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[5] M. E. Seebohm, *The Evolution of the English Farm* (London, 1952), 206–07; W. Harrison, *Description of England in Shakespeare's Youth*, ed. F. J. Furnivall, 2 vols. (London, 1877–81), i, 83.
[6] T. S. Willan, *The Inland Trade* (Manchester, 1976), 11–12.
[7] D. Hey, *Packmen, Carriers and Packhorse Roads* (Leicester, 2001), 67.
[8] Langdon, *Horses, Oxen and Technological Innovation*, 116n; A. C. Leighton, *Transport and Communication in Early Medieval Europe: AD 500–1100* (Newton Abbot, 1972), 104.
[9] GDB 268b (Cheshire S1:4); Grierson, 'Weights and Measures', 83.
[10] Grierson, 'Weights and Measures', 83.

There are other issues besides the amount that a packhorse could notionally carry which affect this figure. One such issue is toll, which in some instances was as much as the price of the salt itself.[11] Domesday Book tells us that a 2s (24d) fine had to be paid for overloading a horse until its back broke if it happened within a league of Nantwich or Northwich and if the king or earl's officer could overtake the offender. There was a similar 2s fine if one overloaded one's cart with salt until the axle broke.[12] This suggests that horses could indeed carry a large amount and buyers were willing to test this fact literally to breaking point in order to purchase as much salt for the toll as possible. Distance is another variable. A pack-horse could obviously travel further with a lighter load on its back. The equipment that the packhorse needed to carry such a load is another factor. However, it is likely that if the carried substance were salt or grain then this was put into sacks which were tied at the horse's neck and thrown across its back to be tied down with ropes.[13] This equipment would presumably not add much weight to the horse's burden. Estimates of the *summa* starting at 100 kg and rising to 150 kg do not seem unduly optimistic.[14]

**Mitta**

Grierson states that in Domesday Book the *mitta* was identical to the *summa* and was 'a measure widely used throughout Western Europe in the Middle Ages and early modern times,' and that both should be considered as horse-loads.[15] A recent article by Maddicott supports this view. He followed Hopkinson's assertion that the standard unit

[11] GDB 268a (Cheshire S3:3). The toll for a horse-load of salt for a man from another shire was 1d.
[12] GDB 268b (Cheshire S2:2).
[13] Langdon, *Horses, Oxen and Technological Innovation*, 227.
[14] Gareth Williams has expressed some scepticism at this lower limit. He once took part in Viking re-enactment activities at a conference and after donning the required armour and then sitting on a small horse he probably weighed more than 100kg.
[15] Grierson, 'Weights and Measures', 83.

of measurement for salt was the 'mitt' and that this was a horse-load equal to 4 bushels or 224lb (102kg).[16] Further evidence towards this end comes from the Worcester Priory Register in the thirteenth century which tells us that the *mitta* was a horse-load. Horses were summoned to carry salt from Droitwich to Worcester and the Register states *quilibet equus portabit unam mittam* ('every horse will carry a mitta').[17]

**Amber**

The only written evidence regarding a measurement of the *amber* in the medieval period comes from 1280. According to the Register of Richmond, an *amber* of salt by the London measure contained half a quarter or 4 bushels (approximately 145 litres).[18] In the nineteenth century, E. W. Robertson used this figure to examine the *amber* of ale in a land grant from Ealdorman Oswulf to Canterbury Cathedral in the early ninth century. Amongst the provisions to the monks for a banquet on the anniversary of Oswulf's death the grant stated that *xxx ombra godes uuelesces alod* ('30 ambers of good Welsh ale') were to be given.[19] Robertson stated that these 30 *ambers* would have contained 600 imperial gallons, generating 1 *amber* of 20 gallons (approximately 89 litres). However, he was somewhat dubious that the *amber* could have contained this much in the ninth century because he claimed that recorded renders to contemporary ecclesiastical institutions would have been huge.[20] Florence Harmer agreed, citing King Athelstan's 'Ordinance Relating to Charities' which states that the monthly allowance

[16] J. R. Maddicott, 'London and Droitwich. *c.* 650–750: Trade, Industry and the Rise of Mercia', *ASE*, 34 (2005), 7–58 at 34; B. Hopkinson, *Salt and the Domesday Salinae at Droitwich, AD 674 to 1690: a Quantitative Analysis*, Droitwich Brine Springs and Archaeological Trust, with Worcestershire Archaeological Society (Stroud, 1996), 10–11 and 26.

[17] *Registrum sive Liber Irrotularius et Consuetudinarius Prioratus Beatae Mariae Wigorniensis,* ed. W. Hale Hale, Camden Old Ser. 91 (London, 1865), 34a.

[18] Liebermann, *Gesetze*, ii, 383.

[19] Harmer, *Select Documents*, 2. A *mitta* of ale here is likely to have been very distinct to the *mitta* of salt in 1086, not least because of the different physical properties of the two.

[20] E. W. Robertson, *Historical Essays in Connexion with the Land, the Church etc.* (Edinburgh, 1872), 68n.

given to each *earm Englisemon* ('poor Englishman') which the king maintained consisted of an *amber* of meal (coarse flour), a shank of bacon or a ram worth 4d.[21] That a person should be given 48 bushels (1,740 litres) of meal every year she found 'quite incredible'.[22] Harmer then suggests that the *amber* probably originated from the Roman *amphora*, and that the *amphora* contained about 6 gallons, or approximately 27 litres.[23]

Ann Hagen has disputed these points. She disagrees that 4 bushels to the *amber* would have been too large a capacity because many institutions would have needed large renders of food to survive. She cites evidence from the Welsh Laws which demonstrate that *ambers* of this size were used in food rents. She finishes her critique by stating that 1 *amber* of 4 bushels was equal to 2 cwt, which is just over 100kg.[24] It is possible that the *amber* had a lower capacity than 4 bushels in the Anglo-Saxon period but because the Domesday *amber* of salt was the same value as the *summa* and the *mitta*, all 1d, then it is also possible that they were of similar capacities to each other, namely a horse-load of 100–150kg. However, the *amber* is the only measurement from Domesday Book of sea salt, which was supposed to be cheaper and coarser than the more refined salt from Droitwich and Nantwich, contained in the *summa*, *mitta* and *sester*. Doubts therefore remain over the size of the *amber* but a value of 100–150kg may be a safe estimate.

[21] *Gesetze*, i, 148.
[22] Harmer, *Select Documents*, 74n.
[23] Ibid., 74.
[24] Hagen, *Food and Drink*, 322–23.

**Sester**

The *sester* was used as both a dry and liquid measure and both represented different capacities.[25] In Domesday Book, a *sester* of salt was used in Gloucestershire yet *sesters* of honey were used in Warwickshire and Wiltshire.

Writing in the mid-twelfth century about the mid-eleventh, Henry of Huntingdon described *sextarius frumenti equo uni solet esse honeri* ('a *sester* of grain, which is a horse's normal load').[26] This evidence is particularly useful as it is the only description of a dry measure for a *sester*. As discussed above, a horse-load is likely to have been between 100–150kg. However, if the *sester* of salt in 1086 was just ½d then perhaps it was smaller than the *summa* and the *mitta* whose values were 1d. It reminds us that measures could potentially be approximate in this period and that there was regional variation between weights and capacities of the same name.

This is demonstrated by the evidence relating to the liquid *sester*. Within Domesday Book we find evidence at Gloucester of a *sester* of honey *ad mensura[m] eiusdem burgi* ('by the measure of the same borough') and of a *sester* of honey *ad mensuram regis* ('by measure of the king').[27] In Warwickshire we see a *sester* of honey *cu[m] majori mensura* ('by the greater measure'), yet none of these examples give a stated measurement of capacity.[28] There are broadly two schools of thought which have appeared explain these capacities: one which would emphasise a lower capacity for the *sester* at around 567–1134ml or 700–900g and one which would advocate a larger *sester* of around 15 pints (8.5l) or more.

[25] Zupko, *Dictionary of Weights and Measures*, 373.
[26] Henry of Huntingdon, *Historia Anglorum*, 374–75.
[27] GDB 162a (Gloucestershire G:1); GDB 166b (Gloucestershire 19:2).
[28] GDB 238a (Warwickshire B:5).

The evidence for the lower capacity *sester* begins with the medical Leechbook 'Peri Didaxeon' ('On Teaching'), possibly written *c.* 950, which gives the following capacity for a *sester*: *se sester sceal wegan tra pund, be sylfyr gewyht* ('the *sester* shall weigh two pounds, by silver weight').[29] Harmer suggests that the *sester* here could either correspond to the Roman *sextarius* which was almost equal to 1 pint (568 ml), or to the *sextarius* of the ecclesiastical Roman standard which weighed 30 ounces (*c.* 800g).[30] Grierson writes that these two pounds were Roman pounds of 24 ounces, and the metric equivalent of this is *c.* 680g.[31] Further evidence for a similar capacity *sester* comes from a charter dated to between 1049 and 1052 where a certain Tova arranged to pay the Abbey of St. Albans an annual rent of *unum sextarium mellis triginta duarum unciarum* ('a thirty-two ounce *sester* of honey').[32] Grierson then suggests that the apparent differences in the weight of the 24 and 32-ounce *sesters* may account for the different cash commutations we find for the *sesters* of honey in Domesday Book, 12d in Wiltshire and 15d in Warwickshire.[33]

Conversely, Hagen believes the foregoing *sester* capacities are too low. Her chief unease relates to another Leechdom which describes the differences in weight of various substances measured by the *pund*, (translated as 'pint'). For example, *pund eles gewihð xii penegum læsse þonne pund wætres* ('a pint of oil weighs twelve pennies less than a pint of water'). The final clause of this Leechdom reads *xv pund wætres gaþ to sestre* which Hagen believes should read 'fifteen pints of water to the *sester*'. However, the translator of the Leechbooks believed that *pund*, in this instance, should be translated as *yntsan* (ounces) so that 'fifteen ounces of water go to the *sester*'. Hagen then points to a further

[29] M. L. Cameron, *Anglo-Saxon Medicine* (Cambridge, 1993), Chapter 5 passim; *Leechdoms*, iii, 92–93.
[30] Harmer, *Select Documents*, 79.
[31] Grierson, 'Weights and Measures', 83.
[32] Harmer, *Select Documents*, 79.
[33] Grierson, 'Weights and Measures', 83.

Leechdom entry which states that 1½ pounds of fennel was to be put into a *sester* and a half of vinegar, which would have been impossible in a *sester* of 15 ounces.[34]

Hagen then draws attention to evidence regarding the abbacy of Æthelwold of Abingdon in the 950s: *In festivis etiam diebus constituit eis, sive in albis sive in cappis, idromelum, videlicet ad prandium inter sex fratres sextarium, et ad coenam inter xii fratres sextarium* ('also on feast days he decided for them, whether in whites or in cassocks, mead, namely a *sester* between six brothers at dinner and a *sester* between twelve brothers at supper').[35] If the *sester* were 15 pints, 2½ pints per monk at dinner (or 1¼ pints at supper) would seem a sensible drinking allowance as opposed to 2½ ounces if the translator of the Leechbooks were correct. Hagen next states that the twelfth-century French *sestier* had a capacity of almost 14 pints which is close to the Anglo-Saxon 15-pint *sester*, though other sources put the French *sestier* closer to a gallon (8 pints) or entirely variable.[36] These larger *sesters* may have been contained in small wooden barrels or casks or possibly large ceramic jugs.[37] Such containers may have added extra value to *sesters* of honey in a way that sacks for *summae* probably did not.

If we approximate the *sester* of honey to 1 or 2 pints (568–1134ml) or to between 24 and 32 ounces (roughly 700–900g) then this has important consequences for the value of honey since 1d would buy either 50–100ml or 50–75g. Beehives are evident in Little

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[34] Hagen, *Food and Drink*, 320; *Leechdoms,* ii, 190–93 and 298–99.
[35] *Monasticon Anglicanum, sive Pandectae Coenobiorum*, eds. R. Dodsworth and W. Dugdale, 3 vols. (London, 1655), i, 104.
[36] Hagen, *Food and Drink*, 321; U. T. Holmes, *Daily Living in the Twelfth Century: Based on the Observations of Alexander Neckam in London and Paris* (Toronto, 1952), 196; A. Hindley, F. W. Langley and B. J. Levy, *Old French–English Dictionary* (Cambridge, 2000), 553; W. Rothwell (ed.), *Anglo–Norman Dictionary, Fascicle 6: R–S* (London, 1990), 704.
[37] Hagen, *Food and Drink*, 321; M. R. McCarthy and C. M. Brooks, *Medieval Pottery in Britain, AD 900–1600* (Leicester, 1988), 112 for a picture of late twelfth century tubular-spouted jugs.

Domesday although we do not have any estimates of how much a hive was expected to produce.[38] On this evidence, honey was either a fairly high valued or luxury commodity, or else it may have been relatively scarce. In a society that sweetened its food with honey and which also used it to make mead and candles, this seems improbable.[39] Furthermore, such a small quantity of honey for 1d seems out of place when a penny also bought 30–50 herring, ¼ acre of corn, 2–3kg of cheese or 100–150kg of salt. Thus the 15-pint *sester* appears to be the most reasonable assessment of the Domesday Book evidence, and 1d would have bought approximately 1 pint of honey.

**Wey**

The *wica* of cheese is described for the entry of Buckland, Berkshire, and this term has been translated as *wey* in both the Phillimore and Alecto editions of Domesday Book. In Latin the *wey* was termed *pondus* but another derivation was *pensa*, which comes from the Latin verb *pensare*, to weigh.[40] One of the earliest recorded measurements of a *wey* comes from the *Historia Monasterii de Abingdon* under the year 963. Here the *pondus Abbendunense* (the *wey* of Abingdon) of cheese weighed 22 stones yet the very fact that this was an Abingdon *wey* suggests that there were many regional variations of this weight across England.[41] Indeed, the *pensum Wiltone* (*wey* of Wilton) is stipulated in the 1130 pipe roll.[42] Furthermore, Connor states that the stone 'was a unit of weight whose magnitude depended on the commodity being weighed and the period in history, ranging from 5 to . . . 14lb'.[43]

[38] Zupko, *Dictionary of Weights and Measures*, 83.
[39] Darby, *Domesday England*, 277.
[40] Zupko, *Dictionary of Weights and Measures*, 434.
[41] *Chronicon Monasterii de Abingdon*, ed. Rev. J. Stephenson, 2 vols. (London, 1858), i, 345.
[42] PR 31 Henry I, 31.
[43] Connor, *Weight and* Measures, 370.

More detailed evidence relates to the early fourteenth century. Firstly, the *Tractatus de Ponderibus et Mensuris*, a legal assize dated to 1302/3 but likely to have been inspired by mid thirteenth-century documents, states:

Wayes eni[m] tam plumbi, q[uo]m[odo] lane, lini, sepi, et casei, ponderant xiiij petras. Et due Waye faciunt unu[m] saccum lane, et xij sacci constituu[n]t le last.

[There is a *wey*, as well as of lead as of wool, tallow, and cheese and weigheth fourteen stones. And two *weys* of wool make a sack, and twelve sacks make a last].[44]

Elsewhere, the *Tractatus* states that a sack of wool ought to weigh 28 stones, which is 350lb. In this instance the *wey* comes to 175lb (*c.* 80kg).[45] The second piece of evidence comes from the so-called 'David's Assize' of Scotland. Though harking back to the days of King David I (1124–53) to give the text greater authority, it was probably compiled in the early fourteenth century due to similarities with the *Tractatus de Ponderibus et Mensuris* and *Fleta*.[46] It states *item lapis ad lanam et ad alias res ponderandas debet ponderare xv libras. Item vaga debet continere xij petras* ('also, a stone of wool and other weighable things ought to weigh fifteen pounds. A *wey* ought to contain twelve stone').[47] The Scottish *wey* therefore contained 180lb (*c.* 82kg).

Perhaps the most intriguing piece of evidence refers to a *pondus Lanfranci* (*wey* of Lanfranc). Lanfranc was Archbishop of Canterbury between 1070 and 1089 and was in office at the time of the Domesday Inquest. The early fourteenth century source

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[44] *The Statutes of the Realm: From original records, etc (1101–1713)*, eds. T. Edlyn Tomlins, J. France, A. Luders, J. Raithby and W.E. Tauton, 11 vols. (London, 1810–28) i, 204–05. Their translation.
[45] 350 pounds / 28 stones = 12.5 pounds per stone. The 14-stone *wey* multiplied by 12.5 pounds = 175 pounds.
[46] Connor, Simpson and Morrison-Low, *Weights and Measures in Scotland*, 118–19.
[47] *The Acts of the Parliaments of Scotland: A.D. MCXXIV–MCCCCXXIII*, 12 vols. (Edinburgh, 1814), i, 312.

containing details of this *wey* is the *Certa et antique assisa Ponderis, Numeri et Mensure in Celario et Granaria*, which is purported to come from a register of Canterbury Priory:

Pensa casei secundum pondus Regis continet xxvi libras magnas. Et quelibet magna libra continet vii parvas libras. Et quelibet parva libra continet xxv s. sterlingorum. Pensa casei secundum pondus Lanfranci continet xxxii libras magnas

[A wey of cheese following the wey of the King contains 26 great pounds. And every great pound contains 7 small pounds. And every small pound contains 25 shillings of sterling. A wey of cheese following the *wey* of Lanfranc contains 32 great pounds].[48]

Thus the weight of the king's *wey* was 182lb and that of Lanfranc 224lb, which under avoirdupois should weigh *c.* 83kg and *c.* 102kg, respectively. However, these pounds contained 25 shillings of sterling, which was equal to the number of shillings in a *libra mercatoria* (mercantile pound), based on the Troy pennyweight of 1.5552 grams.[49] Calculations of both *weys* under these circumstances are as follows:

For the King's *wey*:

1 Troy Pennyweight = 1.5552 grams

(25 shillings = 300 Pennyweights)

300 x 1.5552 = 0.46656kg = 1 small pound

0.46656kg x 7 small pounds = 3.27kg = 1 great pound

3.27g x 26 great pounds = **84.9kg** = 1 *wey*

[48] *Select Tracts and Table Books Relating to English Weights and Measures (1100–1742)*, eds. H. Hall and F. J. Nicholas, Camden 3rd Ser. 41 (London, 1929), 1–53 at 31. My translation.
[49] C. R. Chapman, *How Much, How Heavy and How Long?* (Dursley, 1995), 47–48.

For Lanfranc's *wey*, using the same method of calculation, a *wey* weighs **104.5kg.**

The broad figures across a variety of documents suggest a *wey* of 80–105kg, although the *wey* is likely to have varied between time, region and substance across the medieval period. Nevertheless, by dividing the upper and lower limits of the *wey* by 38.8d, 1d would have bought between 2 and 3kg of cheese in 1086.

## Appendix B: The value of fines, 924–1135

The fines in this appendix are drawn from several sources. Table B.1 contains fines from the corpus of Anglo-Saxon law codes and Norman legal texts. For laws until the end of the reign of King Athelstan I have used F. L. Attenborough's *The Laws of the Earliest English Kings* (Cambridge, 1922) for both text and translation. For laws between the reigns of King Edmund and King Cnut and for the *Leis Willelme* I have used A. J. Robertson's *The Laws of the Kings of England from Edmund to Henry I* (Cambridge, 1925) for both text and translation. For the *Leges Henrici Primi* I have used L. J. Downer's *Leges Henrici Primi* (Oxford, 1972) for both text and translation. For the *Leges Edwardi Confessoris* I have used B. O'Brien's *God's Peace and King's Peace: The Laws of Edward the Confessor* (Pennsylvania, 1999) for both text and translation. All these law codes and legal treatises can also be found in F. Liebermann, *Die Gesetze der Angelsachsen*, 3. vols (Halle, 1903–16), vol. 1.

Table B.2 contains fines from the Northumbrian Priests' Law and I have used the translated edition published in D. Whitelock's *English Historical Documents, c. 500–1042*, vol. 1 (London, 1979), no. 52. Table B.3 contains fines from Domesday Book and I have used the Phillimore edition for referencing (*Domesday Book*, ed. J. Morris, 35 vols. (Chichester, 1975-86)) and the Alecto edition for translation (*Domesday Book*, eds. A. Williams and R. W. H. Erskine (London: Alecto Historical Editions, 1987–1992) and *Domesday Book: A Complete Translation*, eds. A. Williams and G. H. Martin (London, 2002)).

**Appendix B.1: fines from the corpus of Anglo-Saxon law codes and Norman legal texts**

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Neglect to provide a destitute Englishman with food | Reeve | 30s | 150 | Ordinance Relating to Charities | 2 |
| Release of thief from prison | | 120s | 600 | II Æthelstan | 1.3 |
| Rendering assistance to a convicted thief | | 120s | 600 | II Æthelstan | 1.5 |
| Lord assisting one of his men who has done wrong | | 120s to the king | 600 | II Æthelstan | 3 |
| Payment for the release of a sorcerer | Relatives | 120s to the king | 600 | II Æthelstan | 6.1 |
| Anyone trying to avenge a thief but causes no wound | | 120s to the king | 600 | II Æthelstan | 6.3 |
| Exchanging cattle without stipulated witness of the reeve, the mass-priest, the landowner, the treasurer (royal financial official) or some other trustworthy man | | 30s, and the landowner shall take what has been exchanged | 150 | II Æthelstan | 10 |
| If witness bears false witness to cattle transaction | | 30s | 150 | II Æthelstan | 10.1 |
| Covering a shield with sheepskin | Shield-maker | 30s | 150 | II Æthelstan | 15 |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Trading on a Sunday | | 30s and loss of goods | 150 | II Æthelstan | 24.1 |
| Violation of reeve's duties | Reeve | £5 | 1200 | II Æthelstan | 25.2 |
| Receiving a man who has been charged with wrongdoing in another region, but who has escaped | | 120s to the king | 600 | IV Æthelstan | 4 |
| Avenging a thief by violence or aiding his on the high road | | 120s to the king | 600 | VI Æthelstan | 1.5 |
| Theft of a slave | Thief (though ambiguous) | 120d | 600 | VI Æthelstan | 6.3 |
| Non-adherence to due-paying by men in a group of 10 [a tithing] | | 30d or an ox | 30 | VI Æthelstan | 3 |
| Neglecting to help a trail of stolen oxen | | 30d or an ox | 30 | VI Æthelstan | 8.5 |
| Reeve neglecting governmental duties | | 120s | 600 | VI Æthelstan | 11 |
| Thegn neglecting governmental duties | | 60s | 300 | VI Æthelstan | 11 |
| Non assistance with catching a thief | | 120s to king and 30s to the hundred | 600 | III Edmund | 2 |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Non assistance with tracking stolen cattle | | 120s to king and the value of the stock | 600 | III Edmund | 6.2 |
| Opposition, resistance and non-compliance with the law regarding the stealing of cattle | | 120s to the king | 600 | III Edmund | 6.2 |
| Refusal to act as surety | Reeve, thegn, noble of commoner | 120s | 600 | III Edmund | 7.2 |
| Neglect of hundred duty for first time | | 30d to the hundred | 30 | I Edgar | 3 |
| Neglect of hundred duty for second time | | 60d; 30d to the hundred and 30d to his lord | 60 | I Edgar | 3 |
| Neglect of hundred duty for third time | | 120d | 120 | I Edgar | 3.1 |
| Neglect of hundred duty for fourth time | | Loss of all possessions and outlawry | – | I Edgar | 3.1 |
| Non-searching for cattle in hundred where pursuit of stolen cattle has arrived | Chief official of hundred | 30 shillings to the king | 150 | I Edgar | 5.1 |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Non-appearance at hundred court | | 30 shillings as compensation | 150 | I Edgar | 7.1 |
| Failure to pay hearth-penny | | 31d to be taken to Rome, 120s to the king | 600 | II Edgar | 4.1 |
| Failure to pay hearth-penny twice | | 31d to be taken to Rome, 200s to the king | 1000 | II Edgar | 4.2 |
| Failure to pay hearth-penny 3 times | | Loss of all possessions | – | II Edgar | 4.3 |
| Giving false judgement | judge | 120s to the king | 600 | III Edgar | 3 |
| Selling a wey of wool for less than 120d | seller | 60s to the king | 300 | III Edgar | 8.3 |
| Buying a wey of wool for less than 120d | buyer | 60s to the king | 300 | III Edgar | 8.3 |
| Ignoring the bringing to justice of a suspicious member of the public | | 120s to the king | 600 | I Æthelred | 4.3 |
| A Dane killing an Englishman, and vice versa | | 25 pounds | 6000 | II Æthelred | 5 |
| A Dane killing an English slave, and vice versa | | 1 pound | 240 | II Æthelred | 5.1 |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Breach of the peace, established by ealdorman or king's reeve, in the court of the Five Boroughs | | 1200 ora as compensation | 19200 | III Æthelred | 1.1 |
| Breach of the peace, established in a borough court | | 600 ora as compensation | 9600 | III Æthelred | 1.2 |
| Breach of the peace, established in a wapentake | | 100 ora as compensation | 1600 | III Æthelred | 1.2 |
| Breach of the peace in an ale-house if a man is slain | | 6 half marks | 480 | III Æthelred | 1.2 |
| Breach of the peace in an ale-house if no-one is slain | | 12 ores | 192 | III Æthelred | 1.2 |
| Security for interference in land or rights purchases or testimonies | Man of bad repute | 6 half marks; half to the lord, half to the wapentake | 480 | III Æthelred | 3.2 |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| To obtain benefit of the law in the above case | Man of bad repute | 12 ores; half to the lord of the manor and half to the wapentake | 192 | III Æthelred | 3.3 |
| Having livestock without surety | | 20 oras and giving up of livestock | 320 | III Æthelred | 5 |
| Various clauses about paying 6 or 12 ores as security | | | 192 | III Æthelred | 8 |
| Disposal of the hide of a cow or sheep before 3 days | | 20 oras | 320 | III Æthelred | 9.1 |
| Non-ability to provide proof of toll-payment at Billingsgate or Aldersgate | | double the toll plus £5 | 1200 | IV Æthelred | 3.2 |
| Breach of the king's peace | | £5 | 1200 | IV Æthelred | 4 & 4.1 |
| Breach of the king's peace if criminal values the good-will of the town and the king concedes it | | 30s | 150 | IV Æthelred | 4 & 4.2 |
| Deserting an army not under the king's control | | 120 shillings | 600 | V Æthelred | 28.1 |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Breaking a 3-day fast | slave | undergo the lash | – | VII Æthelred | 2.4 |
| Breaking a 3-day fast | poor free-man | 30d | 30 | VII Æthelred | 2.4 |
| Breaking a 3-day fast | king's thegn | 120s | 600 | VII Æthelred | 2.4 |
| Non-payment of hide-penny (or value of) | slave | undergo the lash | – | VII Æthelred | 3 |
| Non-payment of hide-penny (or value of) | householder' (bunda) | 30d | 30 | VII Æthelred | 3 |
| Non-payment of hide-penny (or value of) | thegn | 30s | 150 | VII Æthelred | 3 |
| Violating the protection of a large church | | £5 | 1200 | VIII Æthelred | 5.1 |
| Violating the protection of a medium-sized church | | 120s (i.e. By the fine due to the king for insubordination) | 600 | VIII Æthelred | 5.1 |
| Violating the protection of a smaller church | | 60s | 300 | VIII Æthelred | 5.1 |
| Violating the protection of a country chapel | | 30s | 150 | VIII Æthelred | 5.1 |
| Failure to pay hearth-penny | | 30d to pay additionally, 120s to the king | 600 | VIII Æthelred | 10.1 |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Failure to pay Churchscot | | Churchscot to be paid 12-fold, and 120s to the king | 600 | VIII Æthelred | 11.1 |
| Violating the protection of a large church | | 5 (though in Kent, £5 to the king and £3 to the Archbishop) | 1920 | I Cnut | 3a.2 |
| Violating the protection of a medium-sized church | | 120s (i.e. By the fine due to the king for insubordination) | 600 | I Cnut | 3a.2 |
| Violating the protection of a smaller church | | 60s | 300 | I Cnut | 3a.2 |
| Violating the protection of a country chapel | | 30s | 150 | I Cnut | 3a.2 |
| Failure to pay hearth-penny | | And he who withholds it beyond that date shall give the bishop the penny and 30 pence in addition, and 120 shillings | 600 | I Cnut | 9 |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Failure to pay Churchscot | | And he who withholds them beyond that date shall give them up to the bishop, and repeat the payment 11 times, and [pay] 120 shillings to the king | 600 | I Cnut | 10 |
| Feeding or harbouring a fugitive in Wessex and Mercia | | £5 | 1200 | II Cnut | 13.2 |
| Promoting injustice or pronouncing unjust judgements in districts under English law | | 120s to the king | 600 | II Cnut | 15.1 |
| Promoting injustice or pronouncing unjust judgements in districts under Danish law | | forfeiture of *lahslit* | – | II Cnut | 15.1a |
| Refusal to observe just laws and just judgements under English law | | 120s to the king | 600 | II Cnut | 15.2 |
| Refusal to observe just laws and just judgements under English law | | 60s to the earl | 300 | II Cnut | 15.2 |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Refusal to observe just laws and just judgements under English law | | 30s to the hundred | 150 | II Cnut | 15.2 |
| Violation of justice in the Danelaw | | forfeiture of lahslit | – | II Cnut | 15.3 |
| Refusal to ride against someone refusing to come to the county court | | 120s to the king | 600 | II Cnut | 25.2 |
| Ignoring the bringing to justice of a suspicious member of the public | | 120s to the king | 600 | II Cnut | 33.2 |
| Refusal to hear confession from a condemned man | | 120s to the king | 600 | II Cnut | 44.1 |
| Violation of the king's protection | | £5 compensation | 1200 | II Cnut | 58 |
| Violation of archbishop's or member of the royal family's protection | | £3 compensation | 720 | II Cnut | 58.1 |
| Violation of a bishop's or ealdorman's protection | | £2 compensation | 480 | II Cnut | 58.2 |
| Housebreaking under English law | | £5 to the king | 1200 | II Cnut | 62 |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Housebreaking under Danish law | | amount fixed by existing regulations | – | II Cnut | 62 |
| Neglect to repair fortifications under English law | | 120s to the king | 600 | II Cnut | 65 |
| Neglect to repair bridges under English law | | 120s to the king | 600 | II Cnut | 65 |
| Neglect of military service under English law | | 120s to the king | 600 | II Cnut | 65 |
| Loss of trial by combat as the accuser | Frenchman | £3 to the king | 720 | William I: Regulations Regarding Exculpation | 2.2 |
| Non-capture of the killer of a Frenchman | | 46 marks to king | 7360 | The ten articles of William I | 3.1 |
| Defeat in trial by combat after having been accused of perjury, murder, theft, homicide or 'ran' | | 40s to the king | 480 | The ten articles of William I | 6.2 |
| Refusal to appear at view of frankpledge after 2 occasions | Freeman | An ox | 30 | The ten articles of William I | 8a.2 |
| Refusal to appear at view of frankpledge after 3 occasions | Freeman | 2 oxen | 60 | The ten articles of William I | 8a.2 |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Refusal to appear at view of frankpledge after 4 occasions | | Ceapgeld | – | The ten articles of William I | 8a.3 |
| Laying hands on a man in a bishop's church, an abbey or a monastery | | 100s | 1200 | Leis Willelme | 1.1 |
| Laying hands on a man in a mother church of a parish | | 20s | 240 | Leis Willelme | 1.1 |
| Laying hands on a man in a chapel | | 10s | 120 | Leis Willelme | 1.1 |
| Violation of the king's peace in Mercia | | 100s compensation | 1200 | Leis Willelme | 2 |
| Violation of the king's peace in the Danelaw | | £144 | 34560 | Leis Willelme | 2.2 |
| Insubordination in Mercia | | 40s | 480 | Leis Willelme | 2.2a |
| Insubordination in Wessex | | 50s | 600 | Leis Willelme | 2.2a |
| Fine in lieu of the head of an escaped thief | The thief's surety | 20s compensation | 240 | Leis Willelme | 3.1 |
| Insubordination fine to the king in lieu of the head of an escaped thief | The thief's surety | 40s to the king | 480 | Leis Willelme | 3.1 |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Breach of the king's protection for losing a thief in Wessex | | 100s. 20s to plaintiff in lieu of the head of the accused man, £4 to the king | 1200 | Leis Willelme | 3.2 |
| Breach of the king's protection for losing a thief in the Danelaw | | £8. 20s to plaintiff in lieu of the head of the accused man, £7 to the king | 1920 | Leis Willelme | 3.3 |
| Manbot or fine for killing a free man | | 10s | 120 | Leis Willelme | 7 |
| Manbot or fine for killing a slave | | 20s | 240 | Leis Willelme | 7 |
| Sarbot - compensation for a wound. Each inch of a visible wound on the face. | Attacker | 8d | 8 | Leis Willelme | 10.1 |
| Sarbot - compensation for a wound. Each inch of an invisible wound on the head or of any other invisible place. | Attacker | 4d | 4 | Leis Willelme | 10.1 |
| Sarbot - compensation for a wound. Every piece of bone drawn out of a wound. | Attacker | 4d | 4 | Leis Willelme | 10.1 |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Compensation for the finger next to the thumb, if it is cut off | Attacker | 15s | 60 | Leis Willelme | 11.1 |
| Compensation for the middle finger, if it is cut off | Attacker | 16s | 64 | Leis Willelme | 11.1 |
| Compensation for the ring finger, if it is cut off | Attacker | 17s | 68 | Leis Willelme | 11.1 |
| Compensation for the little finger, if it is cut off | Attacker | 5s | 20 | Leis Willelme | 11.1 |
| Compensation for the nail, if it is cut away from the flesh | Attacker | 5s | 20 | Leis Willelme | 11.2 |
| Compensation for the nail of the little finger, if it is cut away from the flesh | Attacker | 4d | 4 | Leis Willelme | 11.2 |
| Breach of the archbishop's protection in Mercia | | 40s | 480 | Leis Willelme | 16 |
| Breach of a bishop's protection in Mercia | | 20s | 240 | Leis Willelme | 16 |
| Breach of an earl's protection in Mercia | | 20s | 240 | Leis Willelme | 16 |
| Breach of a baron's protection in Mercia | | 10s | 120 | Leis Willelme | 16 |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Breach of a sokeman's protection in Mercia | | 40d | 40 | Leis Willelme | 16 |
| Non-payment of Peter's Pence | | 1d and 30d fine | 30 | Leis Willelme | 17.2 |
| Non-payment of Peter's Pence in king's court | | 30d to bishop and 40s to the king | 480 | Leis Willelme | 17.3 |
| Throwing a woman to the ground in order to offer violence to her | | 10s to her lord | 120 | Leis Willelme | 18.1 |
| Knocking a man's eye out by accident | | 70s | 280 | Leis Willelme | 19 |
| Blinding a man by accident but not knocking out the eye | | 35s | 140 | Leis Willelme | 19 |
| Non-seizure of slayer of Frenchman within 8 days | | 46 marks | 7360 | Leis Willelme | 22 |
| Promoting injustice or unjust judgements as a result of rage or malice or bribery | Those who give judgements | 40s to the king (in the Danelaw the judge forfeits his lahslit) | 480 | Leis Willelme | 39.1 |
| Refusal to observe just law and just judgement of the king | | 480d | 480 | Leis Willelme | 42.1 |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Refusal to observe just law and just judgement of an earl | | 160d | 160 | Leis Willelme | 42.1 |
| Refusal to observe just law and just judgement of the hundred | | 120d | 120 | Leis Willelme | 42.1 |
| Refusal to observe just law and just judgement of the someone who has a court | | 120d | 120 | Leis Willelme | 42.1 |
| Refusal to observe just law and just judgement in Danelaw | | forfeiture of lahslit | – | Leis Willelme | 42.2 |
| Violation of the protection of the church | | £5 | 1200 | Leges Henrici Primi | 11.1a |
| Non-payment of Peter's Pence | | 1d and 30d in addition; 50s fine to the king | 600 | Leges Henrici Primi | 11.3a |
| Withholding of Churchscot beyond Martinmas | | Payment of churchscot plus 11 times more to the bishop. 50s to the king | 600 | Leges Henrici Primi | 11.4 |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Refusal to hear confession from a condemned man | | 120s to the king | 600 | Leges Henrici Primi | 11.9 |
| Compensation for grithbreche, stretbreche, forestel, violation of the king's protection, hamsocn and flymenfyrm | | 100s | 1200 | Leges Henrici Primi | 12.2 |
| Murdrum, unless the offender is captured within 7 days | | 46 marks | 7360 | Leges Henrici Primi | 13.2 |
| Giving an unjust judgement | | 120s to the king and loss of judicial authority unless he redeems it from the king | 600 | Leges Henrici Primi | 13.4 |
| Failure to perform burgbot, brigbot or firdfare | | 120s | 600 | Leges Henrici Primi | 13.9 |
| Failure to attend hundred meeting | holders of free lands in the counties | value of 30d | 30 | Leges Henrici Primi | 29.2 |
| Failure to come to the county court in accordance with the law in Wessex | | 100d (20 mancuses) | 100 | Leges Henrici Primi | 29.3 |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Giving an unjust judgement | | 120s to the king and loss of rank of thegn unless he redeems it from the king | 600 | Leges Henrici Primi | 34.1 |
| Spurning a just judgement in Wessex | | 600d; (50s (if the shilling is 12d)) | 600 | Leges Henrici Primi | 34.3 |
| Spurning a just judgement in respect of an earl | | 300d (60s) | 300 | Leges Henrici Primi | 34.3 |
| Spurning a just judgement in respect of the hundred | | 150d (30 shillings of 5d each, or 5 mancuses) | 150 | Leges Henrici Primi | 34.3 |
| Disobediance (*ouerseunesse*) in respect of the king, in less serious matters | | 600d (20 mancuses or 50 shillings) | 600 | Leges Henrici Primi | 35.1 |
| Disobediance (*ouerseunesse*) in respect of the queen | | 600d (20 mancuses) | 600 | Leges Henrici Primi | 35.1a |
| Disobediance (*ouerseunesse*) in respect of a bishop or earl | | 300d (10 mancuses) | 300 | Leges Henrici Primi | 35.1a |
| Disobediance (*ouerseunesse*) in respect of a thegn or baron | | 150d (5 mancuses) | 150 | Leges Henrici Primi | 35.1a |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Penalty for grithbreche, stretbreche, forestel, violation of the king's protection, hamsocn | | 100s | 1200 | Leges Henrici Primi | 35.2 |
| Mundbreche, blodwite and the cutting of wood outside park or forest | | 150d (5 mancuses) | 150 | Leges Henrici Primi | 37.1 |
| Cutting of wood inside king's park or forests (wudehewet) | | 600d (20 mancuses) | 600 | Leges Henrici Primi | 37.2 |
| Person before a justice withdrawing to take counsel without replying to the accusation immediately | | 600d (20 mancuses) | 600 | Leges Henrici Primi | 48.1a |
| False accusation before a royal justice | | 600d (20 mancuses) | 600 | Leges Henrici Primi | 59.14 |
| Waging battle and, by judgement, loses | | 60s in compensation | 300 | Leges Henrici Primi | 59.15 |
| Englishman slaying a Dane, and vice versa | | £25 | 6000 | Leges Henrici Primi | 70.6 |
| Englishman slaying a Danish slave, and vice versa | | £1 (20s) | 240 | Leges Henrici Primi | 70.7 |
| Grithbreche of a mother or principal church under English law | | £5 | 1200 | Leges Henrici Primi | 79.6 |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Grithbreche of a middle ranking church under English law | | 50s | 600 | Leges Henrici Primi | 79.6 |
| Grithbreche of a smaller church with burial ground under English law | | 25s | 300 | Leges Henrici Primi | 79.6 |
| Grithbreche of a country chapel | | 12s 6d | 150 | Leges Henrici Primi | 79.6 |
| Stretbreche (where someone destroys a road by closing it off or diverting it or digging it up) | | 100s | 1200 | Leges Henrici Primi | 80.5 |
| Hlothbot (being part of a gang but not the killer) - compensation for a two-hundred man | | 360d (30 shillings) | 150 | Leges Henrici Primi | 87.4 |
| Hlothbot (being part of a gang but not the killer) - compensation for a six-hundred man | | 720d (60 shillings) | 300 | Leges Henrici Primi | 87.4 |
| Hlothbot (being part of a gang but not the killer) - compensation for a twelve-hundred man | | 1440d (120 shillings) | 600 | Leges Henrici Primi | 87.4 |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Murdrum, unless the offender is captured within 7 days | | 46 marks (40 to the king, 6 to the slain person's family) | 7360 | Leges Henrici Primi | 91.1 |
| Grabbing someone by the hair | | 5d | 5 | Leges Henrici Primi | 94.4 |
| Non-payment of Peter's Pence | | | – | Leges Edwardi Confessoris | 10.2 |
| Manbote - the killing of a villanus or a sokeman under the king's peace in the Danelaw | | 12 oras (192d) | 192 | Leges Edwardi Confessoris | 12–12.4 |
| Manbote - the killing of a freeman under the king's peace in the Danelaw | | 3 marks (480d) | 480 | Leges Edwardi Confessoris | 12–12.4 |
| Manbote - the killing of a king's or an archbishop's man under the king's peace under English law | | 3 marks (480d) | 480 | Leges Edwardi Confessoris | 12–12.5 |
| Manbote - the killing of a bishop's, earl's or king's steward's man under the king's peace under English law | | 20s (240d) | 240 | Leges Edwardi Confessoris | 12–12.5 |

| Fine | By whom | Value | Value in pence | Law code | Cap |
|---|---|---|---|---|---|
| Manbote - the killing of a baron's man under the king's peace under English law | | 10s (120d) | 120 | Leges Edwardi Confessoris | 12–12.5 |
| Murdrum, unless the offender is captured within 8 days (although an extra month was granted if the vill could not find the killer within 8 days) | | 46 marks (7,360d) [40 to king, 6 to relatives] | 7360 | Leges Edwardi Confessoris | 15–15.4 |
| Breach of the peace given by the king's hand in the Danelaw | 18 hundreds | £144 (£8 per hundred) | 34560 | Leges Edwardi Confessoris | 27–27.2 |
| Compensation for an offence in Norfolk, Suffolk and Cambridgeshire | 10.5 hundreds | £84 (£8 per hundred) | 20160 | Leges Edwardi Confessoris | 33 |

**Appendix B.2: Fines from the Northumbrian Priests' Law**

| Fine | By whom | Value | Value in pence | Cap |
|---|---|---|---|---|
| Buying or receiving the position of priest at another church | Priest | 44 oras (20 to the bishop, 12 to the ousted priest, 12 to all the colleagues) | 704 | 2.2 |
| Celebrating mass without the bishop's permission | Priest | 20 oras | 320 | 3 |
| Neglecting the bishop's summons | Priest | 20 oras | 320 | 4 |
| Referral of a case to a layman instead of an ecclesiastic | Priest | 20 oras | 320 | 5 |
| Neglecting an archdeacon's summons | Priest | 12 oras | 192 | 6 |
| Celebrating mass without the archdeacon's permission | Priest | 12 oras | 192 | 7 |
| Refusal to baptise or hear confession | Priest | 12 oras | 192 | 8 |
| Not fetching chrism at the proper time | Priest | 12 oras | 192 | 9 |
| Not baptising a child within 9 days | Priest | 12 oras | 192 | 10 |
| Not baptising a child who dies after 9 days | Priest | 12 oras | 192 | 10.1 |
| Misdirection of people regarding a festival or fast | Priest | 12 oras | 192 | 11 |
| Wrongly obtaining ordination outside the diocese | Priest | 12 oras | 192 | 12 |
| Wrongly obtaining ordination outside the diocese | Deacon | 6 oras | 96 | 12 |
| Celebrating mass in an unconsecrated building | Priest | 12 oras | 192 | 13 |
| Celebrating mass without a consecrated alter | Priest | 12 oras | 192 | 14 |
| Consecration of host in a wooden chalice | Priest | 12 oras | 192 | 15 |
| Celebration of mass without wine | Priest | 12 oras | 192 | 16 |
| Neglecting of the host | Priest | 12 oras | 192 | 17 |

| Fine | By whom | Value | Value in pence | Cap |
|---|---|---|---|---|
| Celebrating mass more than 3 times a day | Priest | 12 oras | 192 | 18 |
| Wounding a priest | Anyone | Compensation for the wounds to the priest, 12 ores to bishop for the insult to the altar | 192 | 23 |
| Wounding a deacon | Anyone | Compensation for the wounds to the priest, 6 ores to the bishop for the insult to the altar | 96 | 23 |
| Slaying a priest | Anyone | Full wergild compensation, 24 ores to bishop for the insult to the altar | 384 | 24 |
| Slaying a deacon | Anyone | Full wergild compensation, 6 ores to the bishop for the insult to the altar | 96 | 24 |
| Practising heathen worship, sacrifice or witchcraft | Any man | 10 half-marks (£3 6s 8d); half to Christ, half to the king | 800 | 48 |
| Practising heathen worship, sacrifice or witchcraft | Landowner | 6 half-marks (£2); half to Christ, half to the lord of the estate | 480 | 49 |
| Practising heathen worship, sacrifice or witchcraft | Færbena | 12 ores | 192 | 50 |
| Trading at a Sunday market | Freeman | 12 ores | 192 | 56 |
| Trading at a Sunday market | Slave | A flogging | – | 56 |

| Fine | By whom | Value | Value in pence | Cap |
|---|---|---|---|---|
| Violation of festival or legal fast | Anyone | 12 ores | 192 | 57 |
| Withholding of Rome-penny by St. Peter's Day | King's thegn or lord of estate | 10 half-marks (£3 6s 8d); half to Christ, half to the king | 800 | 58 |
| Withholding of Rome-penny by St. Peter's Day | Tunesman (Villager) | Lord pays penny and takes an ox from the villager | 30 | 59 |
| Withholding tithes | King's thegn | 10 half-marks (£3 6s 8d) | 800 | 60 |
| Withholding tithes | Landowner | 6 half-marks (£2) | 480 | 60 |
| Withholding tithes | Ceorl | 12 ores | 192 | 60 |

**Appendix B.3: Fines from Domesday Book**

| Fine | Value | Value in d | Form of Price | Payable to | Place | County | Reference |
|---|---|---|---|---|---|---|---|
| Not going on hunt when summoned | 50s | 600 | | King | Wallingford | Berkshire | GDB 56c (Berkshire B:10) |
| Breaking into a city at night | 100s | 1200 | | King | Wallingford | Berkshire | GDB 56c (Berkshire B:11) |
| Free man remaining away from the hundred court or not going to a plea when the reeve ordered | 5s | 60 | | King? | West Derby Hundred | Between the Ribble and the Mersey | GDB 269d (Cheshire R1:40d) |
| Not going on the reeve's service | 4s | 48 | | King? | West Derby Hundred | Between the Ribble and the Mersey | GDB 269d (Cheshire R1:40e) |
| Thegn not performing duties of making the king's houses, fisheries, enclosures of woodland, deers and hays | 2s | 24 | | King? | West Derby Hundred | Between the Ribble and the Mersey | GDB 269d (Cheshire R1:40a) |
| Thegn not sending reapers for one day in August to cut the king's crops | 2s | 24 | | King? | West Derby Hundred | Between the Ribble and the Mersey | GDB 269d (Cheshire R1:40a) |
| Free man committing theft, highway robbery, housebreaking or breaking the king's peace | 40s | 480 | | King? | West Derby Hundred | Between the Ribble and the Mersey | GDB 269d (Cheshire R1:40b) |

| Fine | Value | Value in d | Form of Price | Payable to | Place | County | Reference |
|---|---|---|---|---|---|---|---|
| Anyone wanting to withdraw from the king's land | 40s | 480 | | King? | West Derby Hundred | Between the Ribble and the Mersey | GDB 269d (Cheshire R1:40f) |
| Payment of relief for lands held by deceased father | 40s | 480 | | King? | West Derby Hundred | Between the Ribble and the Mersey | GDB 269d (Cheshire R1:40g) |
| Free man committing bloodshed, rape of a woman, or remained away from the shiremoot | 10s | 120 | | King? | West Derby Hundred | Between the Ribble and the Mersey | GDB 269d (Cheshire R1:40c) |
| Reeve wrongly hanging a thief | 20 | 240 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:7) |
| Wrongly hanging a thief | 10s | 120 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:7) |
| Man of king, bishop or earl being absent from the hundred court | 10s | 120 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262d (Cheshire C:20) |
| Breaking the peace, given by king | 100s | 1200 | | King | Chester | Cheshire | GDB 262c (Cheshire C:3) |
| Breaking the peace, given by king's reeve or earl's officer | 40s | 480 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:3) |
| Housebreaking or highway robbery not on Chester Holy Days, or Sunday | 20 | 240 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:6) |

| Fine | Value | Value in d | Form of Price | Payable to | Place | County | Reference |
|---|---|---|---|---|---|---|---|
| Killing a man on the Holy Days, specified in Chester | £4 | 960 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:6) |
| Housebreaking or highway robbery on the Holy Days, specified in Chester, and on Sundays | £4 | 960 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:6) |
| Housebreaking or highway robbery on days other than Holy Days and Sundays | 40s | 480 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:6) |
| Robbery in a house | 40s | 480 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:8) |
| Raping a woman in a house | 40s | 480 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:8) |
| Unlawful claim or seizure of land | 40s | 480 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:10) |
| Arriving at or leaving the city by ship (Chester) without the king's leave | 40s | 480 | King and earl had 40s from each man on the ship | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:15) |
| Unlawful selling of marten pelts, as against the directive of the reeve | 40s | 480 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:17) |
| Withholding toll for more than 3 nights | 40s | 480 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262d (Cheshire C:18) |

| Fine | Value | Value in d | Form of Price | Payable to | Place | County | Reference |
|---|---|---|---|---|---|---|---|
| Lord's fine for his man not repairing the city wall and bridge | 40s | 480 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262d (Cheshire C:21) |
| Re: Saltpans in Northwich. Fine for anyone bringing a cart with 2 or more oxen from the same shire and not paying before the third night of his visit | 40s | 480 | | King 2/3, Earl 1/3 | Northwich | Cheshire | GDB 268a (Cheshire S3:2) |
| Re: Saltpans in Northwich. Fine at Martinmas if man selling salt by horse did not pay the 1d | 40s | 480 | | King 2/3, Earl 1/3 | Northwich | Cheshire | GDB 268a (Cheshire S3:3) |
| Fine if a free man takes toll beyond salt-pan boundary of Nantwich | 40s | 480 | 40s plus the toll | King 2/3, Earl 1/3 | Nantwich | Cheshire | GDB 268b (Cheshire S3:6) |
| Fine for making 2 summae of salt out of one, if the officer of king or earl could overtake him | 40s | 480 | | Officer of Earl or King | Middlewich | Cheshire | GDB 268b (Cheshire S2:3) |
| Shedding blood from Saturday noon to Monday morning | 20s | 240 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:5) |
| Shedding blood during 12 days of Christmas, Candlemas, first day of Easter, first day of Whitsun, Ascension Day, the Assumption, the Nativity of St. Mary, the feast of All Saints. | 20s | 240 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:5) |

| Fine | Value | Value in d | Form of Price | Payable to | Place | County | Reference |
|---|---|---|---|---|---|---|---|
| Killing a man on days which are not Holy, as specified in Chester | 20s | 240 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:6) |
| Widow having unlawful intercourse with a man | 20s | 240 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:9) |
| Shedding blood from Monday morning to Saturday noon | 10s | 120 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:5) |
| Unmarried woman having unlawful intercourse with a man | 10s | 120 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:9) |
| Relief for his or kinsman's land | 10s | 120 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:11) |
| Unpaid rent | 10s | 120 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:12) |
| Freeman working on a holy day | | 96 | | Bishop of Chester | Chester | Cheshire | GDB 263a (Cheshire B:1) |
| Outbreak of fire in man's house | 3 oras | 48 | 3 orae of pennies, and 2s to nearest neighbour | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:13) |
| False measure | 4s | 48 | | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:18) |
| Brewing bad beer | 4s | 48 | 4s or put in cucking-stool | King 2/3, Earl 1/3 | Chester | Cheshire | GDB 262c (Cheshire C:18) |

| Fine | Value | Value in d | Form of Price | Payable to | Place | County | Reference |
|---|---|---|---|---|---|---|---|
| Slave (m/f) working on a holy day | 4s | 48 | | Bishop of Chester | Chester | Cheshire | GDB 263a (Cheshire B:1) |
| Merchant opening goods between Saturday noon to Monday, or on any other feast-day | 4s | 48 | | Bishop of Chester | Chester | Cheshire | GDB 263a (Cheshire B:2) |
| Loading within Chester | 4s | 48 | 4s or 2 oxen | Bishop of Chester | Chester | Cheshire | GDB 263a (Cheshire B:2) |
| Fine if an unfree man takes toll beyond salt-pan boundary of Nantwich | 4s | 48 | 40s plus the toll | King 2/3, Earl 1/3 | Nantwich | Cheshire | GDB 268b (Cheshire S3:6) |
| Incurring (except homicide or theft) a forfeiture within the salt-pan area of Nantwich | 2s | 24 | 2s or 30 boilings of salt | King 2/3, Earl 1/3 | Nantwich | Cheshire | GDB 268b (Cheshire S1:5) |
| Fine for overloading a cart with salt, so that the axle breaks, within a league of either Wich and if the officer of king or earl could overtake him | 2s | 24 | | Officer of Earl or King | Middlewich | Cheshire | GDB 268b (Cheshire S2:2) |
| Fine for overloading a horse with salt, so that its back breaks, within a league of either Wich and if the officer of king or earl could overtake him | 2s | 24 | | Officer of Earl or King | Middlewich | Cheshire | GDB 268b (Cheshire S2:2) |

| Fine | Value | Value in d | Form of Price | Payable to | Place | County | Reference |
|---|---|---|---|---|---|---|---|
| Any burgess forfeiture in the new borough around Rhuddlan, except homicide or theft | 12d | 12 | | Earl Hugh and Robert of Rhuddlan | Rhuddlan Castle | Cheshire (North Wales) | GDB 269b (Cheshire FT2:19) |
| Breaking the peace | £8 | 1920 | Paid by 12 hundreds | King | Derby | Derbyshire | GDB 280c (Derbyshire S:1) |
| Breaking the peace | £8 | 1920 | Paid by 6 hundreds | Earl | Derby | Derbyshire | GDB 280c (Derbyshire S:1) |
| Relief for thegns who have had more than 6 manors | £8 | 1920 | | King | Derby | Derbyshire | GDB 280c (Derbyshire S:3) |
| Relief for thegns who have had 6 manors or less | £2 | 480 | 3 marks of silver | Sheriff | Derby | Derbyshire | GDB 280c (Derbyshire S:3) |
| Men of Hereford City not going into Wales with the Sheriff | 40s | 480 | | King | Hereford | Herefordshire | GDB 179a (Herefordshire C:10) |
| Killing of king's man and a housebreaking | 120s | 1440 | 20s for the man, 100s as a forfeiture | King | Hereford | Herefordshire | GDB 179b (Herefordshire A:3) |

| Fine | Value | Value in d | Form of Price | Payable to | Place | County | Reference |
|---|---|---|---|---|---|---|---|
| Breaking the peace | 100s | 1200 | | King | Hereford | Herefordshire | GDB 179a (Herefordshire C:13) |
| Housebreaking | 100s | 1200 | | King | Hereford | Herefordshire | GDB 179a (Herefordshire C:13) |
| Highway Robbery | 100s | 1200 | | King | Hereford | Herefordshire | GDB 179a (Herefordshire C:13) |
| Welshman stealing man, woman, horse, ox or cow | 20s | 240 | 20s plus restitution of stolen goods | King | Hereford | Herefordshire | GDB 179b (Herefordshire A:2) |
| Welshman setting a house on fire | 20s | 240 | 20s unless he can defend himself by 40 men | King | Hereford | Herefordshire | GDB 179b (Herefordshire A:5) |
| Killing of thegn's man | 10s | 120 | | Dead man's lord | Hereford | Herefordshire | GDB 179b (Herefordshire A:3) |
| Death of burgess with no horse | 10s | 120 | 10s or his land with house | King | Hereford | Herefordshire | GDB 179a (Herefordshire C:5) |

| Fine | Value | Value in d | Form of Price | Payable to | Place | County | Reference |
|---|---|---|---|---|---|---|---|
| Welshman stealing a sheep or a bundle of sheaves | 2s | 24 | | King | Hereford | Herefordshire | GDB 179b (Herefordshire A:2) |
| Welshman not going to the shiremoot | 2s | 24 | 2s or an ox | King | Hereford | Herefordshire | GDB 179b (Herefordshire C:7) |
| Robbery | 5d | 5 | Forfeiture for fines above 4d | Abbot of Ramsey | Broughton | Huntingdon-shire | GDB 204b (Huntingdon-shire 6:3) |
| Fornication, Bloodshed or Robbery | 4d | 4 | Up to 4d | Sokeman | Broughton | Huntingdon-shire | GDB 204b (Huntingdon-shire 6:3) |
| Breach of the peace on a road | £8 | 1920 | | King | Dover | Kent | GDB 1b (Kent D:14) |
| Blocking the King's public way | 100s | 1200 | | King | Dover | Kent | GDB 1b (Kent D:12) |
| If blocked King's public way, and has left for home without finding security or being arrested | 100s | 1200 | | King | Dover | Kent | GDB 1b (Kent D:13) |
| Breach of the peace | 100s | 1200 | | Lord | Dover | Kent | GDB 1b (Kent D:15) |

| Fine | Value | Value in d | Form of Price | Payable to | Place | County | Reference |
|---|---|---|---|---|---|---|---|
| Breaking the peace | £8 | 1920 | Paid by 18 hundreds | King 2/3, Earl 1/3 | Lincoln | Lincolnshire | GDB 336c (Lincolnshire C:32) |
| Fine for free man's withdrawal from land | 2s | 24 | 4 free men could not withdraw except paying 2s | Hugh de Houdain | Palling | Norfolk | LDB 187a (Norfolk 9:182) |
| Fine for free man's withdrawal from land | 2s | 24 | 30 free men could not withdraw except paying 2s | Hermer | Islington | Norfolk | LDB 207a (Norfolk 13:13) |
| Impeding the passage of boats on the Trent | £8 | 1920 | | King | Nottingham | Nottingham-shire | GDB 280a (Nottingham-shire B:20) |
| Ploughing or making a ditch within 2 perches of the Kings road to York | £8 | 1920 | | King | Nottingham | Nottingham-shire | GDB 280a (Nottingham-shire B:20) |
| Breaking the peace | £8 | 1920 | Paid by 12 hundreds | King | | Nottingham-shire | GDB 280c (Nottingham-shire S:1) |
| Breaking the peace | £8 | 1920 | Paid by 6 hundreds | Earl | | Nottingham-shire | GDB 280c (Nottingham-shire S:1) |

| Fine | Value | Value in d | Form of Price | Payable to | Place | County | Reference |
|---|---|---|---|---|---|---|---|
| Relief for thegns who have had more than 6 manors | £8 | 1920 | | King | | Nottingham-shire | GDB 280c (Nottingham-shire S:3) |
| Relief for thegns who have had 6 manors or less | £2 | 480 | 3 marks of silver | Sheriff | | Nottingham-shire | GDB 280c (Nottingham-shire S:3) |
| Non-repair of house wall | 40s | 480 | House renders nothing if the wall is repaired. If found not repaired either the fine is 40s or he loses his house | King | Oxford | Oxfordshire | GDB 154b (Oxfordshire B:10) |
| Violently breaking into a house or court and then killing or wounding or assailing a man | 100s | 1200 | | King | Oxford | Oxfordshire | GDB 154d (Oxfordshire 1:13) |
| Man summoned to go on expedition that does not go | 100s | 1200 | | King | Oxford | Oxfordshire | GDB 154d (Oxfordshire 1:13) |
| Men of Shrewsbury not going into Wales with the Sheriff | 40s | 480 | | King | Shrewsbury | Shropshire | GDB 252a (Shropshire C:4) |

| Fine | Value | Value in d | Form of Price | Payable to | Place | County | Reference |
|---|---|---|---|---|---|---|---|
| Breaking the king's peace, enforced by the sheriff | 100s | 1200 | | King | Shrewsbury | Shropshire | GDB 252a (Shropshire C:2) |
| Housebreaking | 100s | 1200 | | King | Shrewsbury | Shropshire | GDB 252a (Shropshire C:2) |
| Highway Robbery | 100s | 1200 | | King | Shrewsbury | Shropshire | GDB 252a (Shropshire C:2) |
| Outbreak of fire in burgess's house | 40s | 480 | 40s to king and 2s to each of his nearest 2 neighbours | King | Shrewsbury | Shropshire | GDB 252a (Shropshire C:6) |
| Shedding blood | 40s | 480 | | King | Shrewsbury | Shropshire | GDB 252a (Shropshire C:9) |
| Woman taking husband if a widow | 20s | 240 | | King | Shrewsbury | Shropshire | GDB 252a (Shropshire C:5) |
| Woman taking husband if unmarried | 10s | 120 | | King | Shrewsbury | Shropshire | GDB 252a (Shropshire C:5) |
| Relief upon death of burgess | 10s | 120 | | King | Shrewsbury | Shropshire | GDB 252a (Shropshire C:7) |

| Fine | Value | Value in d | Form of Price | Payable to | Place | County | Reference |
|---|---|---|---|---|---|---|---|
| Burgess breaking due date fixed for him by sheriff | 10s | 120 | | King | Shrewsbury | Shropshire | GDB 252a (Shropshire C:8) |
| 2 or 3 not going to the hundred, if duly notified | 32d | | 2 oras | King | Dunwich | Suffolk | LDB 312a (Suffolk 6:89a) |
| Man committing adultery or rape | 8s 4d | 100 | | King | Lewes | Sussex | GDB 26a (Sussex 12:1) |
| Woman committing adultery or rape | 8s 4d | 100 | | Archbishop | Lewes | Sussex | GDB 26a (Sussex 12:1) |
| From fugitive, if retaken | 8s 4d | 100 | | King 2/3, Earl 1/3 | Lewes | Sussex | GDB 26a (Sussex 12:1) |
| A man who sheds blood | 7s 4d | 88 | | ? | Lewes | Sussex | GDB 26a (Sussex 12:1) |
| Burgess not going on expedition by land | 100s | 1200 | | King | Warwick | Warwickshire | GDB 238a (Warwickshire B:6) |
| If summoned to march against the enemy, but you stay behind with no man going in your place | 40s | 480 | | King via Lord | Worcester | Worcester-shire | GDB 172a (Worcestershire C:5) |
| Breaking the king's peace, enforced by the sheriff | 100s | 1200 | | King | Worcester | Worcester-shire | GDB 172a (Worcestershire C:4) |

| Fine | Value | Value in d | Form of Price | Payable to | Place | County | Reference |
|---|---|---|---|---|---|---|---|
| Housebreaking | 100s | 1200 | | King | Worcester | Worcester-shire | GDB 172a (Worcestershire C:4) |
| Highway Robbery | 100s | 1200 | | King | Worcester | Worcester-shire | GDB 172a (Worcestershire C:4) |
| If summoned to march against the enemy, but you stay behind with another man going in your place | 40s | 480 | | Lord | Worcester | Worcester-shire | GDB 172a (Worcestershire C:5) |
| Breaking the peace | £8 | 1920 | Paid by 12 hundreds | King | York | Yorkshire | GDB 298d (Yorkshire C:38) |
| Breaking the peace | £8 | 1920 | Paid by 6 hundreds | Earl | York | Yorkshire | GDB 298d (Yorkshire C:38) |
| Relief for thegns who have had more than 6 manors | £8 | 1920 | | King | York | Yorkshire | GDB 298d (Yorkshire C:40) |
| Relief for thegns who have had 6 manors or less | £2 | 480 | 3 marks of silver | Sheriff | York | Yorkshire | GDB 298d (Yorkshire C:40) |

## Appendix C: National die estimates, *c.* 973–1066

**Table C.1: Allen estimates of the total number of dies used based on the Lincoln, Winchester and York mint studies and the Petersson 1969 corpus, *c.* 973–1066**

| | | Lincoln | | Winchester | | York | | |
|---|---|---|---|---|---|---|---|---|
| **Type** | **Conventional Dates** | **Point** | **C. Limits** | **Point** | **C. Limits** | **Point** | **C. Limits** | **Difference between highest and lowest point estimates** |
| Reform | *c.* 973–79 | 1,368 | 903–2,095 | 840 | 504–1,432 | 2,281 | 1,529–3,421 | 1,441 |
| First Hand | *c.* 979–85 | 3,127 | 2,035–5,723 | 2,079 | 1,361–2,417 | 2,845 | 2,069–3,916 | 1,048 |
| Second Hand | *c.* 985–91 | – | – | 1,766 | 1,073–2,935 | – | – | – |
| Crux | *c.* 991–97 | 6,326 | 5,182–7,737 | 3,007 | 2,795–3,231 | 6,869 | 5,751–8,195 | 3,862 |
| Long Cross | *c.* 997–1003 | 2,761 | 2,574–2,959 | 731 | 710–772 | 2,979 | 2,754–3,221 | 2,248 |
| Helmet | *c.* 1003–09 | 1,589 | 1,314–1,924 | 679 | 594–764 | 1,398 | 1,237–1,586 | 910 |
| Last Small Cross | *c.* 1009–17 | 3,860 | 3,481–4,280 | 2,045 | 1,906–2,203 | 2,542 | 2,328–2,779 | 1,815 |
| Quatrefoil | *c.* 1017–23 | 6,058 | 5,387–6,819 | 5,282 | 4,627–6,043 | 5,263 | 4,761–5,823 | 795 |
| Pointed Helmet | *c.* 1023–29 | 2,740 | 2,503–2,999 | 2,338 | 2,100–2,576 | 2,183 | 2,079–2,294 | 557 |
| Short Cross | *c.* 1029–36 | 1,652 | 1,520–1,799 | 1,879 | 1,620–2,181 | 1,047 | 987–1,114 | 832 |
| Jewel Cross | *c.* 1036–38 | 1,132 | 917–1,397 | 1,654 | 1,153–2,356 | 779 | 665–912 | 875 |
| Fleur-de-Lis | *c.* 1038–40 | 1,604 | 1,294–2,000 | 1,084 | 842–1,422 | 636 | 562–710 | 968 |
| Arm and Sceptre | *c.* 1040–42 | 792 | 602–947 | 1,448 | 899–2,363 | 486 | 394–602 | 962 |
| Pacx | *c.* 1042–44 | 686 | 497–950 | 1,103 | 619–2,024 | 704 | 465–1,082 | 417 |
| Radiate Small Cross | *c.* 1044–46 | 626 | 484–810 | 1,024 | 695–1,554 | 634 | 548–737 | 398 |
| Trefoil Quadrilateral | *c.* 1046–48 | 759 | 569–1,017 | 2,012 | 1,124–3,787 | 426 | 364–500 | 1,586 |
| Small Flan | *c.* 1048–50 | 366 | 268–512 | – | – | 357 | 310–417 | 9 |
| Expanding Cross Light | *c.* 1050–53 | 305 | 203–472 | – | – | 359 | 295–439 | 54 |
| Expanding Cross Heavy | *c.* 1050–53 | 579 | 472–708 | 492 | 374–669 | 310 | 243–391 | 269 |

| | | Lincoln | | Winchester | | York | | |
|---|---|---|---|---|---|---|---|---|
| **Type** | **Conventional Dates** | **Point** | **C. Limits** | **Point** | **C. Limits** | **Point** | **C. Limits** | **Difference between highest and lowest point estimates** |
| Expanding Cross Total | *c.* 1050–53 | 884 | 675–1,180 | 492 | 374–669 | 669 | 538–830 | 392 |
| Pointed Helmet | *c.* 1053–56 | 1,191 | 783–1,811 | 1,029 | 750–1,425 | 536 | 481–599 | 655 |
| Sovereign | *c.* 1056–59 | – | – | 1,061 | 672–1,722 | 905 | 721–1,125 | 156 |
| Hammer Cross | *c.* 1059–62 | 2,014 | 1,419–2,860 | 750 | 526–1,066 | 981 | 873–1,100 | 1,264 |
| Facing Bust | *c.* 1062–65 | 1,353 | 797–2,367 | 679 | 430–1,109 | 540 | 488–598 | 813 |
| Pyramids | *c.* 1065–66 | 491 | 262–1,015 | 387 | 279–530 | 245 | 224–272 | 246 |
| Pax | 1066 | 328 | 255–492 | 483 | 268–940 | 276 | 224–347 | 207 |

**Table C.2: Allen estimates of the total number of dies used based on the Lincoln, Winchester and York mint studies and the Metcalf 1981 corpus, *c.* 973–1050**

| | | Lincoln | | Winchester | | York | | |
|---|---|---|---|---|---|---|---|---|
| **Type** | **Conventional Dates** | **Point** | **C. Limits** | **Point** | **C. Limits** | **Point** | **C. Limits** | **Difference between highest and lowest point estimates** |
| Reform | *c.* 973–79 | 2,088 | 1,379–3,199 | 729 | 437–1,242 | 2,897 | 1,943–4,345 | 2,168 |
| First Hand | *c.* 979–85 | 2,812 | 1,830–5,146 | 1,898 | 1,424–2,528 | 2,954 | 2,148–4,066 | 1,056 |
| Second Hand | *c.* 985–91 | – | – | 1,949 | 1,184–3,239 | – | – | – |
| Crux | *c.* 991–97 | 5,350 | 4,383–6,543 | 3,648 | 3,372–3,897 | 4,565 | 3,822–5,446 | 1,702 |
| Long Cross | *c.* 997–1003 | 2,223 | 2,073–2,383 | 845 | 821–894 | 2,232 | 2,063–2,413 | 1,387 |
| Helmet | *c.* 1003–09 | 1,527 | 1,263–1,848 | 902 | 789–1,015 | 1,242 | 1,099–1,409 | 625 |
| Last Small Cross | *c.* 1009–17 | 3,713 | 3,349–4,117 | 2,359 | 2,198–2,540 | 2,483 | 2,274–2,715 | 1,230 |
| Quatrefoil | *c.* 1017–23 | 5,887 | 5,234–6,626 | 5,422 | 4,750–6,203 | 5,220 | 4,722–5,775 | 465 |
| Pointed Helmet | *c.* 1023–29 | 2,690 | 2,457–2,944 | 2,455 | 2,205–2,705 | 2,286 | 2,178–2,402 | 404 |
| Short Cross | *c.* 1029–36 | 1,669 | 1,536–1,818 | 1,709 | 1,473–1,984 | 1,129 | 1,065–1,202 | 580 |
| Jewel Cross | *c.* 1036–38 | 1,096 | 888–1,352 | 1,444 | 1,007–2,057 | 802 | 685–939 | 642 |
| Fleur-de-Lis | *c.* 1038–40 | 1,584 | 1,278–1,975 | 1,117 | 868–1,464 | 681 | 602–760 | 903 |
| Arm and Sceptre | *c.* 1040–42 | 769 | 585–920 | 1,540 | 956–2,512 | 535 | 433–662 | 771 |
| Pacx | *c.* 1042–44 | 687 | 498–952 | 1,409 | 792–2,587 | 597 | 394–917 | 812 |
| Radiate Small Cross | *c.* 1044–46 | 582 | 450–753 | 1,067 | 724–1,619 | 1,014 | 877–1,179 | 485 |
| Trefoil Quadrilateral | *c.* 1046–48 | 887 | 665–1,188 | 1,921 | 1,073–3,616 | 488 | 417–573 | 1,433 |
| Small Flan | *c.* 1048–50 | 236 | 173–331 | – | – | 515 | 447–601 | 279 |

**Table C.3: Estimates of the total number of dies used nationally employing the Petersson 1990 corpus, *c.* 973–1066**

| | | Lincoln | | Winchester | | York | | |
|---|---|---|---|---|---|---|---|---|
| **Type** | **Conventional Dates** | **Point** | **C. Limits** | **Point** | **C. Limits** | **Point** | **C. Limits** | **Difference between highest and lowest point estimates** |
| Reform | *c.* 973–79 | 893 | 590–1,368 | 1,027 | 616–1,751 | 2,099 | 1,407–3,148 | 1,206 |
| First Hand | *c.* 979–85 | 2,577 | 1,459–4,716 | 1,988 | 1,491–2,647 | 2,509 | 1,825–3,454 | 589 |
| Second Hand | *c.* 985–91 | – | – | 1,625 | 988–2,700 | – | – | – |
| Crux | *c.* 991–97 | 5,363 | 4,394–6,560 | 2,859 | 2,657–3,071 | 7,464 | 6,249–8,905 | 4,605 |
| Long Cross | *c.* 997–1003 | 2,327 | 2,170–2,494 | 705 | 685–746 | 2,780 | 2,570–3,006 | 2,075 |
| Helmet | *c.* 1003–09 | 1,430 | 1,183–1,731 | 742 | 649–834 | 1,378 | 1,219–1,563 | 688 |
| Last Small Cross | *c.* 1009–17 | 3,492 | 3,149–3,871 | 2,077 | 1,935–2,236 | 2,445 | 2,240–2,674 | 1,415 |
| Quatrefoil | *c.* 1017–23 | 5,532 | 4,919–6,227 | 5,590 | 4,897–6,395 | 5,330 | 4,822–5,897 | 260 |
| Pointed Helmet | *c.* 1023–29 | 2,577 | 2,353–2,820 | 2,474 | 2,222–2,726 | 2,023 | 1,928–2,126 | 554 |
| Short Cross | *c.* 1029–36 | 1,502 | 1,382–1,636 | 1,941 | 1,674–2,254 | 1,014 | 956–1,079 | 927 |
| Jewel Cross | *c.* 1036–38 | 1,130 | 916–1,395 | 1,790 | 1,247–2,549 | 741 | 633–868 | 1,049 |
| Fleur-de-Lis | *c.* 1038–40 | 1,548 | 1,249–1,930 | 1,013 | 788–1,328 | 594 | 525–664 | 954 |
| Arm and Sceptre | *c.* 1040–42 | 722 | 549–942 | 1,524 | 947–2,487 | 453 | 366–560 | 1,071 |
| Pacx | *c.* 1042–44 | 654 | 474–906 | 1,126 | 633–2,067 | 756 | 500–1,161 | 472 |
| Radiate Small Cross | *c.* 1044–46 | 604 | 467–782 | 1,140 | 773–1,730 | 553 | 479–644 | 587 |
| Trefoil Quadrilateral | *c.* 1046–48 | 673 | 505–901 | 1,866 | 1,043–3,512 | 369 | 316–433 | 1,497 |
| Small Flan | *c.* 1048–50 | 391 | 286–547 | – | – | 267 | 232–312 | 124 |
| Expanding Cross Light | *c.* 1050–53 | 359 | 240–556 | – | – | 275 | 226–337 | 84 |
| Expanding Cross Heavy | *c.* 1050–53 | 312 | 254–381 | 710 | 540–966 | 284 | 223–358 | 426 |
| Expanding Cross Total | *c.* 1050–53 | 651 | 487–894 | 710 | 540–966 | 582 | 470–721 | 128 |
| Pointed Helmet | *c.* 1053–56 | 1,080 | 710–1,642 | 1,251 | 913–1,733 | 349 | 313–390 | 902 |

| | | Lincoln | | Winchester | | York | | |
|---|---|---|---|---|---|---|---|---|
| **Type** | **Conventional Dates** | **Point** | **C. Limits** | **Point** | **C. Limits** | **Point** | **C. Limits** | **Difference between highest and lowest point estimates** |
| Sovereign | *c.* 1056–59 | – | – | 1,058 | 670–1,717 | 440 | 351–547 | 618 |
| Hammer Cross | *c.* 1059–62 | 1,647 | 1,160–2,340 | 1,109 | 778–1,576 | 481 | 428–540 | 1,166 |
| Facing Bust | *c.* 1062–65 | 1,301 | 766–2,276 | 1,029 | 651–1,680 | 310 | 280–343 | 991 |
| Pyramids | *c.* 1065–66 | 565 | 301–1,167 | 487 | 352–668 | 146 | 134–162 | 419 |
| Pax | 1066 | 274 | 213–411 | 626 | 348–1,217 | 229 | 187–289 | 397 |

**Table C.4: Grouped die-estimate data after 1035**

| Petersson 1969 data | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Lincoln | | Winchester | | York | | |
| **Group** | **Conventional Dates** | **Point** | **C. Limits** | **Point** | **C. Limits** | **Point** | **C. Limits** | **Difference between highest and lowest point estimates** |
| Jewel Cross, Fleur-de-Lis, Arm and Sceptre | *c.* 1036–42 | 3,528 | 2,813–4,344 | 4,186 | 2,894–6,141 | 1,901 | 1,621–2,224 | 2,285 |
| Pacx, Radiate, Trefoil Quadrilateral | *c.* 1042–48 | 2,071 | 1,550–2,777 | 4,139 | 2,435–7,366 | 1,764 | 1,377–2,319 | 2,375 |
| Small Flan, Expanding Cross | (*c.* 1048–53) | 1,500 | 1,132–2,030 | 1,396[1] | 1,014–1,984 | 1,231 | 1,018–1,496 | 269 |
| Pointed Helmet, Sovereign | *c.* 1053–59 | 2,252[2] | 1,455–3,533 | 2,090 | 1,422–3,147 | 1,441 | 1,202–1,724 | 811 |
| Hammer Cross, Facing Bust | *c.* 1059–65 | 3,367 | 2,216–5,227 | 1,429 | 956–2,175 | 1,521 | 1,361–1,698 | 1,938 |
| **Metcalf 1981 data** | | | | | | | | |
| | | Lincoln | | Winchester | | York | | |
| **Group** | **Conventional Dates** | **Point** | **C. Limits** | **Point** | **C. Limits** | **Point** | **C. Limits** | **Difference between highest and lowest point estimates** |
| Jewel Cross, Fleur-de-Lis, Arm and Sceptre | *c.* 1036–42 | 3,449 | 2,751–4,247 | 4,101 | 2,831–6,033 | 2,018 | 1,720–2,361 | 2,083 |
| Pacx, Radiate, Trefoil Quadrilateral | *c.* 1042–48 | 2,156 | 1,613–2,893 | 4,397 | 2,589–7,822 | 2,099 | 1,688–2,669 | 2,298 |

[1] Lincoln data added for *Small Flan* type.
[2] Winchester data added for *Sovereign* type.

| Petersson 1990 data | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Lincoln | | Winchester | | York | | |
| **Group** | **Conventional Dates** | **Point** | **C. Limits** | **Point** | **C. Limits** | **Point** | **C. Limits** | **Difference between highest and lowest point estimates** |
| Jewel Cross, Fleur-de-Lis, Arm and Sceptre | *c.* 1036–42 | 3,400 | 2,714–4,267 | 4,327 | 2,982–6,364 | 1,788 | 1,524–2,092 | 2,539 |
| Pacx, Radiate, Trefoil Quadrilateral | *c.* 1042–48 | 1,931 | 1,446–2,589 | 4,132 | 2,449–7,309 | 1,678 | 1,295–2,238 | 2,201 |
| Small Flan, Expanding Cross | (*c.* 1048–53) | 1,250 | 928–1,729 | 1,399[3] | 1,279–2,069 | 1,019 | 842–1,240 | 380 |
| Pointed Helmet, Sovereign | *c.* 1053–59 | 2,138[4] | 1,380–3,359 | 2,309 | 1,583–3,450 | 789 | 664–937 | 1,520 |
| Hammer Cross, Facing Bust | *c.* 1059–65 | 2,948 | 1,926–4,616 | 2,167 | 1,429–3,256 | 791 | 708–883 | 2,157 |

[3] Lincoln data added for *Small Flan* type.
[4] Winchester data added for *Sovereign* type.

## Appendix D: Distances travelled by single finds at 25km intervals from their mints of origin, 924–1135

**Table D.1: Number of single finds found at 25km distances from their mints of origin, 924–1135: reign by reign**

| Reign | 0-25 | % | 25-50 | % | 50-75 | % | 75-100 | % | 100-125 | % | 125-150 | % | 150-175 | % | 175-200 | % | >200 | % | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **924–*c.* 973** | **16** | *27.1* | **11** | *18.6* | **8** | *13.6* | **11** | *18.6* | **2** | *3.4* | **2** | *3.4* | **2** | *3.4* | **2** | *3.4* | **5** | *8.5* | **59** |
| **Edgar** | **5** | *17.9* | **0** | *0.0* | **4** | *14.3* | **1** | *3.6* | **3** | *10.7* | **2** | *7.1* | **4** | *14.3* | **5** | *17.9* | **4** | *14.3* | **28** |
| **Ed. Martyr** | **4** | *10.0* | **1** | *2.5* | **2** | *5.0* | **12** | *30.0* | **5** | *12.5* | **3** | *7.5* | **4** | *10.0* | **3** | *7.5* | **6** | *15.0* | **40** |
| **Æthelred II** | **59** | *18.1* | **26** | *8.0* | **42** | *12.9* | **42** | *12.9* | **41** | *12.6* | **22** | *6.7* | **26** | *8.0* | **13** | *4.0* | **55** | *16.9* | **326** |
| **Cnut** | **38** | *17.8* | **29** | *13.6* | **22** | *10.3* | **28** | *13.1* | **27** | *12.7* | **24** | *11.3* | **9** | *4.2* | **11** | *5.2* | **25** | *11.7* | **213** |
| **Harold I*** | **13** | *16.9* | **15** | *19.5* | **7** | *9.1* | **5** | *6.5* | **17** | *22.1* | **8** | *10.4* | **2** | *2.6* | **5** | *6.5* | **5** | *6.5* | **77** |
| **Harthacnut** | **4** | *20.0* | **5** | *25.0* | **2** | *10.0* | **3** | *15.0* | **1** | *5.0* | **0** | *0.0* | **1** | *5.0* | **2** | *10.0* | **2** | *10.0* | **20** |
| **Ed. Conf.** | **76** | *20.8* | **68** | *18.6* | **39** | *10.7* | **52** | *14.2* | **30** | *8.2* | **33** | *9.0* | **17** | *4.7* | **15** | *4.1* | **35** | *9.6* | **365** |
| **Harold II** | **10** | *35.7* | **4** | *14.3* | **2** | *7.1* | **1** | *3.6* | **4** | *14.3* | **4** | *14.3* | **0** | *0.0* | **1** | *3.6* | **2** | *7.1* | **28** |
| **William I** | **34** | *16.5* | **27** | *13.1* | **29** | *14.1* | **26** | *12.6* | **25** | *12.1* | **17** | *8.3* | **12** | *5.8* | **12** | *5.8* | **24** | *11.7* | **206** |
| ***c.* 973–1086** | **243** | *18.6* | **175** | *13.4* | **149** | *11.4* | **170** | *13.0* | **153** | *11.7* | **113** | *8.7* | **75** | *5.8* | **67** | *5.1* | **158** | *12.1* | **1,303** |
| **William II** | **3** | *6.5* | **6** | *13.0* | **9** | *19.6* | **10** | *21.7* | **5** | *10.9* | **3** | *6.5* | **3** | *6.5* | **3** | *6.5* | **4** | *8.7* | **46** |
| **Henry I** | **44** | *16.3* | **28** | *10.4* | **34** | *12.6* | **31** | *11.5* | **20** | *7.4* | **23** | *8.5* | **26** | *9.6* | **19** | *7.0* | **45** | *16.7* | **270** |
| **1086–1135** | **47** | *14.9* | **34** | *10.8* | **43** | *13.6* | **41** | *13.0* | **25** | *7.9* | **26** | *8.2* | **29** | *9.2* | **22** | *7.0* | **49** | *15.5* | **316** |
| **924–1135** | **306** | *18.2* | **220** | *13.1* | **200** | *11.9* | **222** | *13.2* | **180** | *10.7* | **141** | *8.4* | **106** | *6.3* | **91** | *5.4* | **212** | *12.6* | **1,678** |

*Harold I figure includes Harthacnut's *Jewel Cross* type.

**Table D.2: Number of single finds found at 25km distances from their mints of origin, 924–1135: select mints**

| Mint | 0-25 | % | 25-50 | % | 50-75 | % | 75-100 | % | 100-125 | % | 125-150 | % | 150-175 | % | 175-200 | % | >200 | % | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **London** | **36** | *9.6* | **21** | *5.6* | **44** | *11.8* | **70** | *18.7* | **74** | *19.8* | **49** | *13.1* | **22** | *5.9* | **23** | *6.1* | **35** | *9.4* | **374** |
| **Lincoln** | **38** | *21.3* | **46** | *25.8* | **7** | *3.9* | **8** | *4.5* | **16** | *9.0* | **24** | *13.5* | **10** | *5.6* | **11** | *6.2* | **18** | *10.1* | **178** |
| **York** | **35** | *20.5* | **23** | *13.5* | **17** | *9.9* | **17** | *9.9* | **12** | *7.0* | **1** | *0.6* | **5** | *2.9* | **8** | *4.7* | **53** | *31.0* | **171** |
| **Thetford** | **38** | *37.6* | **28** | *27.7* | **12** | *11.9* | **5** | *5.0* | **6** | *6.0* | **9** | *9.0* | **2** | *2.0* | **0** | *0.0* | **1** | *1.0* | **101** |
| **Winchester** | **21** | *25.0* | **9** | *10.7* | **12** | *14.3* | **13** | *15.5* | **6** | *7.1* | **1** | *1.2* | **8** | *9.5* | **3** | *3.6* | **11** | *13.1* | **84** |
| **Norwich** | **21** | *27.3* | **18** | *23.4* | **15** | *19.5* | **12** | *15.6* | **3** | *3.9* | **2** | *2.6* | **2** | *2.6* | **0** | *0.0* | **4** | *5.2* | **77** |
| **Canterbury** | **15** | *19.7* | **8** | *10.5* | **4** | *5.3* | **14** | *18.4* | **4** | *5.3* | **9** | *11.8* | **10** | *13.2* | **2** | *2.6* | **10** | *13.2* | **76** |
| **Stamford** | **5** | *7.4* | **4** | *5.9* | **17** | *25.0* | **18** | *26.5* | **10** | *14.7* | **5** | *7.4* | **2** | *2.9* | **4** | *5.9* | **3** | *4.4* | **68** |
| **Wallingford** | **10** | *31.3* | **1** | *3.1* | **3** | *9.4* | **0** | *0.0* | **4** | *12.5* | **4** | *12.5* | **3** | *9.4* | **3** | *9.4* | **4** | *12.5* | **32** |
| **Oxford** | **5** | *17.9* | **7** | *25.0* | **1** | *3.6* | **2** | *7.1* | **3** | *10.7* | **4** | *14.3* | **3** | *10.7* | **2** | *7.1* | **1** | *3.6* | **28** |
| **Chester** | **1** | *5.0* | **7** | *35.0* | **1** | *5.0* | **2** | *10.0* | **0** | *0.0* | **2** | *10.0* | **1** | *5.0* | **1** | *5.0* | **5** | *25.0* | **20** |
| **Exeter** | **1** | *5.0* | **0** | *0.0* | **2** | *10.0* | **0** | *0.0* | **1** | *5.0* | **3** | *15.0* | **2** | *10.0* | **3** | *15.0* | **8** | *40.0* | **20** |
| **Gloucester** | **4** | *25.0* | **4** | *25.0* | **0** | *0.0* | **0** | *0.0* | **3** | *18.8* | **0** | *0.0* | **1** | *6.3* | **2** | *12.5* | **2** | *12.5* | **16** |
| **Nottingham** | **0** | *0.0* | **2** | *13.3* | **3** | *20.0* | **2** | *13.3* | **1** | *6.7* | **2** | *13.3* | **2** | *13.3* | **1** | *6.7* | **2** | *13.3* | **15** |
| **Hastings** | **0** | *0.0* | **1** | *9.1* | **1** | *9.1* | **3** | *27.3* | **0** | *0.0* | **1** | *9.1* | **3** | *27.3* | **0** | *0.0* | **2** | *18.2* | **11** |
| **Salisbury** | **3** | *27.2* | **3** | *27.2* | **2** | *18.2* | **0** | *0.0* | **0** | *0.0* | **0** | *0.0* | **0** | *0.0* | **1** | *9.1* | **2** | 18.2 | **11** |
| **Hertford** | **0** | *0.0* | **3** | *42.9* | **2** | *28.6* | **1** | *14.3* | **0** | *0.0* | **0** | *0.0* | **1** | *14.3* | **0** | *0.0* | **0** | *0.0* | **7** |
| **Tamworth** | **2** | *40.0* | **0** | *0.0* | **1** | *20.0* | **2** | *40.0* | **0** | *0.0* | **0** | *0.0* | **0** | *0.0* | **0** | *0.0* | **0** | *0.0* | **5** |
| **Romney** | **0** | *0.0* | **2** | *66.7* | **0** | *0.0* | **0** | *0.0* | **0** | *0.0* | **1** | *33.3* | **0** | *0.0* | **0** | *0.0* | **0** | *0.0* | **3** |
| **Watchet** | **0** | *0.0* | **0** | *0.0* | **0** | *0.0* | **0** | *0.0* | **1** | *50.0* | **0** | *0.0* | **0** | *0.0* | **0** | *0.0* | **1** | *50.0* | **2** |
| **Totals** | **235** | *18.1* | **187** | *14.4* | **144** | *11.1* | **169** | *13.0* | **144** | *11.1* | **117** | *9.0* | **77** | *5.9* | **64** | *4.9* | **162** | *12.5* | **1,299** |

## Appendix E: Summaries of coin types in the hoards, 924–1135

This appendix summarises the English coin types contained within each hoard of the period 924–1135. It is largely based upon Martin Allen's hoard-summary appendix in his *Mints and Money in Medieval England* which covers the period *c.* 973–1158.[956] To this I have added hoard data from the period 924–*c.* 973, which is displayed in table E.1. I have also included Welsh hoards of the period 924–1135 and these are denoted in italic font. I have also included a table of hoards which were deposited after 1135 but contain coins struck before this date (table E.6). It was not possible to include all 157 hoards in the main appendix because some of the hoards are too poorly recorded to establish what types they originally contained. Oving and Offham are two such hoards since their records only show that they contained coins of Edward the Confessor and Harold II. Other hoards have not been recorded because they contained no English coins at all, such as the Southampton hoard of 22 Norman deniers. A list of these hoards is given in table E.7.

There is consensus over the sequence of the Anglo-Saxon and Norman coin types from *c.* 973 until the end of William II's reign in 1100. However, due to the relative paucity of Henry I's coin types there is still some doubt over their sequence during the middle of his reign. I have opted to use Allen's suggested sequence of 1, 2, 3, 4, 5, 6, 9, 8, 7, 11, 10, 12, 13, 14, 15 as opposed to Blackburn's suggested sequence of 1, 2, 3, 4, 5, 6, 9, 7, 8, 11, 10, 12, 13, 14, 15.[957]

[956] Allen, *Mints and Money*, Appendix A1 on pages 382–95.
[957] Blackburn, 'Coinage and Currency', 72.

**Table E.1: Hoard summaries, 924–*c.* 973**

| Hoard | Deposited | Viking | Alfred | Plegmund | Edward | Athelstan | Edmund | Eadred | Eadwig | Edgar |
|---|---|---|---|---|---|---|---|---|---|---|
| Morley St. Peter[958] (Norfolk) | *c.* 925 | 38 | 80 | – | 763 | 1 | | | | |
| Northampton, near | *c.* 925 | – | – | – | 1 | 1 | | | | |
| Bossall/Flaxton (Yorkshire) | *c.* 927 | – | – | – | x | x | | | | |
| Vale of York[959] | *c.* 928 | 31 | 51 | 8 | 402 | 45 | | | | |
| Tywardreath (Cornwall) | *c.* 930 | – | – | – | 14 | 3 | | | | |
| Whippendell Woods (Herts) | *c.* 930 | – | – | – | 3 | 3 | | | | |
| Deptford, near (Kent) | *c.* 935 | – | – | – | x | x | | | | |
| London (Cannon St Railway Bridge) | *c.* 935 | – | – | 2+ | 4+ | 2+ | | | | |
| Oxford | *c.* 935 | – | – | – | 1 | 3 | | | | |
| Scotby (Cumbria) | *c.* 935 | 8 | – | – | 7 | 4 | | | | |
| Coppergate (York) | *c.* 940 | 2 | – | – | – | 2 | | | | |
| Kirtling (Cambs) | *c.* 945? | x | – | – | – | – | x | | | |
| London (Threadneedle St.) | *c.* 945 | – | – | – | – | 2 | 3 | | | |
| Plumpton (Sussex) | *c.* 945 | – | – | – | – | – | x | | | |
| Wymondham (Norfolk) | *c.* 950? | – | – | – | – | – | x? | | | |
| Honeden/Hundon (Suffolk) | *c.* 953 | – | – | – | – | 4 | 14 | 6 | | |
| Bath (Abbey) (Somerset) | *c.* 955 | – | – | – | – | 3 | 20 | 17 | | |
| Up Marden (West Sussex) | *c.* 950s | – | – | – | – | 1 | 1 | 2 | | |
| Kintbury (Berks) | *c.* 960 | – | – | – | – | – | 1 | 4 | 5 | |
| Tetney (Lincs) | *c.* 963 | 2 | – | – | – | – | – | 46 | 69 | 276 |
| *Bangor (Vicar's Garden) (Caern.)* | *c. 965?* | – | – | – | – | – | – | – | – | *2* |
| Chester (Castle Esplanade)[960] | *c.* 965 | 4 | 1 | – | 6 | 46 | 66 | 139 | 109 | 139 |
| Kent | *c.* 965 | 1? | – | – | – | – | – | 1? | 1? | 1? |
| North Owersby (Lincs) | *c.* 965 | – | – | – | – | – | – | – | – | 4? |
| Chester (Eastgate St) | *c.* 970 | – | – | – | – | – | – | 4 | 4 | 27 |
| "Hampshire" | *c.* 970 | – | – | – | – | – | – | – | – | 25? |

[958] Also includes 1 penny of Ceolwulf II of Mercia.
[959] Also includes 4 Carolingian pennies and 15 Islamic dirhams.
[960] Also includes 1 denier of Berengar, King of Italy, and 2 deniers of Melle, in modern-day Belgium.

| Hoard | Deposited | Viking | Alfred | Plegmund | Edward | Athelstan | Edmund | Eadred | Eadwig | Edgar |
|---|---|---|---|---|---|---|---|---|---|---|
| Hargrave (Cheshire) | *c.* 970 | – | – | – | – | – | – | – | – | 6 |
| York (Pavement) | *c.* 970 | – | – | – | – | – | – | – | – | 2 |
| Warlaby (Yorkshire) | *c.* 973 | – | – | – | – | – | 1 | 3 | 7 | 28 |

**Table E.2: Hoard summaries, *c.* 973–1035**

| Hoard | Deposited | Reform | First Hand | Second and Benediction Hand | Crux | Long Cross | Helmet | Last Small Cross | Quatrefoil | Pointed Helmet | Short Cross | Later types |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Laugharne* | *Mid/Late 970s* | *60?* | | | | | | | | | | |
| Welwyn[961] | *c.* 980 | 2 | | | | | | | | | | |
| Oakham | *c.* 980 | 13+ | | | | | | | | | | |
| Spettisbury Ring | *c.* 980? | 2+ | | | | | | | | | | |
| Chester (Pemberton's Parlour) | *c.* 980 | 121 | 12 | | | | | | | | | |
| Ipswich | Early/Mid–980s | – | 75+ | | | | | | | | | |
| Uncertain (Lincs/Yorks) | Early/Mid–980s | – | x | | | | | | | | | |
| Chelsea Reach | Mid 980s/Early 990s | – | – | 15 | | | | | | | | |
| Rotherfield Greys | Mid 980s/Early 990s? | – | – | 2–3 | | | | | | | | |
| Isleworth | Early/Mid–990s | – | 0–2 | 5–7 | 21 | | | | | | | |
| Beachamwell | Early/Mid–990s | – | – | – | 2 | | | | | | | |
| Bury St. Edmunds I | Early/Mid–990s | – | – | – | 2+ | | | | | | | |
| Bury St. Edmunds II | Early/Mid–990s | – | – | – | 15+ | | | | | | | |
| Haverhill | Early/Mid–990s | – | – | – | 3 | | | | | | | |
| *Monmouth* | *Early/Mid–990s* | – | – | – | *12* | | | | | | | |
| Arreton area | *c.* 1000 | – | – | – | – | 2 | | | | | | |
| Barsham | *c.* 1000 | – | – | – | – | *c.*60 | | | | | | |
| Bramdean Common | *c.* 1000 | – | – | – | – | 20 | | | | | | |
| Cheriton | *c.* 1000 | – | – | – | – | 3 | | | | | | |
| Downham Parish | *c.* 1000 | – | – | – | – | 9 | | | | | | |
| Great Barton | *c.* 1000 | – | – | – | – | *c.*50 | | | | | | |
| Hangleton | *c.* 1000 | – | – | – | – | 2 | | | | | | |
| Harting Beacon | *c.* 1000 | – | – | – | – | 5 | | | | | | |

[961] This hoard contains two pre-Reform three-line pennies. One was struck at Chester in Edgar's reign and the other is unidentifiable.

| Hoard | Deposited | Reform | First Hand | Second and Benediction Hand | Crux | Long Cross | Helmet | Last Small Cross | Quatrefoil | Pointed Helmet | Short Cross | Later types |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Honey Lane Market | *c.* 1000 | – | – | – | – | 8+ | | | | | | |
| Shaftesbury | *c.* 1000 | – | – | – | – | 92+ | | | | | | |
| Welbourn | *c.* 1000 | 1+? | 5+ | – | 1+ | 1+ | | | | | | |
| Micklegate | *c.* 1000 | – | – | – | – | 5+ | | | | | | |
| *Penrice* | *Mid/Late 1000s* | – | – | – | – | – | *c.30* | | | | | |
| London (Chiswick Bridge) | *c.* 1010–16 | – | – | – | – | – | – | 6/7 | | | | |
| London (St Martin–le–Grand) | *c.* 1010–16 | – | – | – | – | – | – | 59+ | | | | |
| *Drwsdangoed* | *c. 1020* | – | – | – | – | – | – | – | *48* | | | |
| Gloucester (Kingsholm) | *c.* 1020? | – | – | – | – | – | – | – | x | | | |
| *Pant–yr–Eglwys* | *c. 1020* | – | – | – | – | – | – | – | *3* | | | |
| Barrowby | *c.* 1025–30 | – | – | – | – | – | – | – | 10+ | 2+ | | |
| *Llandudno* | *c. 1025–30* | – | – | – | – | – | – | – | *c.187* | *2* | | |
| Halton Moor | *c.* 1025–30 | – | – | – | – | – | – | – | – | 379+ | | |
| Manchester (Castle Hill) | *c.* 1025–30 | – | – | – | – | – | – | – | – | 1+ | | |
| Wellingborough | *c.* 1025–30 | – | – | – | – | – | – | – | – | 2+ | | |
| "Cnut hoard" | *c.* 1030–5 | – | – | – | x | – | – | x | x | x | x | |
| Bottisham | *c.* 1030–5 | – | – | – | – | – | – | – | – | – | 3 | |
| Polstead | *c.* 1030–5 | – | – | – | – | – | – | – | – | – | 4 | |
| Raithby | *c.* 1030–5 | – | – | – | – | – | – | – | – | – | 3 | |
| Near Woodbridge | *c.* 1030–5 | – | – | – | – | – | – | – | – | – | 3 | |
| Uncertain | *c.* 1030–5 | – | – | – | – | – | – | – | – | – | *c.*27+ | |
| Constantine | *c.* 1040? | – | – | – | – | – | – | – | 1+ | – | – | ? |
| Wedmore | *c.* 1043 | – | – | – | – | – | 1+ | – | 21+ | 43+ | 64+ | 51+ |
| Appledore | Early 1050s | – | – | – | – | – | – | – | – | – | 1 | 503 |
| Milton Street | Mid–1050s | – | – | – | – | – | – | – | 4+ | – | 6+ | 41+ |
| London (Cornhill) | Early/Mid–1060s? | – | – | – | – | – | – | – | 1+ | 4+ | – | 2+ |
| London (Walbrook) | Early/Mid–1070s | – | – | – | – | – | – | 4+ | – | 1+ | 18+ | 2,349+ |

**Table E.3: Hoard summaries, 1035–66**

| Hoard | Deposited | Earlier types | Jewel Cross | Fleur–de–lis | Arm and Sceptre | Pacx | Radiate | Trefoil Quadrilateral | Small Flan | Expanding Cross | Pointed Helmet | Sovereign | Hammer Cross | Facing Bust | Pyramids | Pax | Later types |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Titchmarsh | *c.* 1040 | – | – | 9 | | | | | | | | | | | | | |
| Bowthorpe | *c.* 1042 | – | – | – | 3 | | | | | | | | | | | | |
| Constantine | *c.* 1042? | 1 | ? | – | ? | | | | | | | | | | | | |
| Wedmore | *c.* 1043 | 175+ | 7+ | 19+ | 20+ | 5+ | | | | | | | | | | | |
| Thwaite | Early/Mid–1050s | – | – | – | – | 14+ | 14+ | 66+ | 129+ | | | | | | | | |
| Appledore | Early 1050s | 1 | 1 | – | – | 1 | – | 3 | – | 497 | | | | | | | |
| Ixworth | Mid–1050s | – | – | – | – | – | 1+ | – | – | – | 2+ | | | | | | |
| Milton Street | Mid–1050s | 14+ | – | – | – | 5+ | 12+ | – | – | 2+ | 18+ | | | | | | |
| Nottingham (Barkergate) | Late 1050s | – | – | – | – | – | – | – | – | – | – | 3+ | | | | | |
| Nottingham (S. Forest) | Late 1050s | – | – | – | – | – | – | – | – | – | 4+ | 1+ | | | | | |
| London (Cornhill) | Early/Mid–1060s? | 5+ | – | – | – | – | – | – | 1+ | – | – | – | – | 1+ | | | |
| London (Gracechurch St) | Early/Mid–1060s | – | – | – | – | – | – | – | – | 1+ | 24+ | 2+ | 27 | 2+ | | | |
| Sedlescombe | Early/Mid–1060s | – | – | – | – | – | – | – | – | – | 121+ | 112+ | 706+ | 183+ | | | |
| Harewood | *c.* 1066 | – | – | – | – | – | – | – | – | – | – | – | – | – | *c.*45 | | |
| Stockbridge Down | *c.* 1066 | – | – | – | – | – | – | – | – | – | – | – | – | – | 6 | | |
| York (Bishophill I) | *c.* 1066 | – | – | – | – | – | 1+ | – | – | 2+ | 36+ | 67+ | 91+ | 134+ | 56+ | | |
| Castor | *c.* 1066 | – | – | – | – | – | 1+ | 1+ | 1+ | 1+ | 1+ | – | – | 1+ | 1+ | 1+ | |
| Chancton Upper Farm | *c.* 1066 | – | – | – | – | – | 4+ | 1+ | – | 133+ | 430+ | 303+ | 578+ | 138+ | 54+ | 58+ | |
| Yorkshire | *c.* 1066 | – | – | – | – | – | – | – | – | – | – | 101+ | 68+ | 7+ | 68+ | 23+ | |
| Arundel Castle | *c.* 1066? | – | – | – | – | – | – | – | – | – | – | – | – | 1+ | 1+ | 1+ | |
| Ashdown Forest | *c.* 1066? | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1+ | |
| Denge Marsh | *c.* 1067–8 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | x | x |
| Rotherham | *c.* 1066–8 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 30+ | 2+ |
| Soberton | *c.* 1067–8 | – | – | – | – | – | – | – | – | – | – | – | – | – | 77 | 159 | 22 |
| Uncertain | *c.* 1067–8 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | *c.*16+ | 2+ |

| Hoard | Deposited | Earlier types | Jewel Cross | Fleur–de–lis | Arm and Sceptre | Pacx | Radiate | Trefoil Quadrilateral | Small Flan | Expanding Cross | Pointed Helmet | Sovereign | Hammer Cross | Facing Bust | Pyramids | Pax | Later types |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Oulton | *c.* 1068–70 | – | – | – | – | – | – | – | – | 1+ | 3+ | 2+ | 4+ | 1+ | 4+ | – | 5+ |
| Corringham | Early 1070s | – | – | – | – | – | – | – | – | – | – | – | – | – | 46 | 30 | 24 |
| Whitchurch | Early 1070s | – | – | – | – | – | – | – | – | – | – | – | – | 1+ | – | – | 4+ |
| London (Walbrook) | Early 1070s | 23+ | – | – | – | 31+ | 5+ | 51+ | 53+ | 610+ | 247+ | 98+ | 701+ | 533+ | 5+ | 1+ | 4+ |
| London (St. Mary at Hill) | Early/Mid–1070s | – | – | – | – | – | – | – | – | – | 1+ | 27+ | – | – | – | 31+ | 20+ |
| *Abergavenny area*[962] | *Mid–1080s* | – | – | – | – | – | – | – | – | *1* | *1* | *30* | *64* | *34* | – | – | *69* |

[962] Two coins attribute to *Hammer Cross* are *Sovereign/Hammer Cross* mules.

**Table E.4: Hoard summaries, 1066–1100**

| Hoard | Deposited | Earlier types | Profile Cross Fleury | Bonnet | Canopy | Two Sceptres | Two Stars | Sword | Profile Cross and Trefoils | Paxs | Profile | Cross in Quatrefoil | Cross Voided | Crosses Pattee and Fleury | Cross Fleury and Piles | Later types |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Denge Marsh | *c.* 1067–8 | x | x | | | | | | | | | | | | | |
| Norwich (Garlands) | *c.* 1067–8 | – | 11/12 | | | | | | | | | | | | | |
| Rotherham | *c.* 1067–8 | 30+ | 2+ | | | | | | | | | | | | | |
| Soberton | *c.* 1067–8 | 237 | 22 | | | | | | | | | | | | | |
| York Minster | *c.* 1067–8 | – | 3 | | | | | | | | | | | | | |
| Uncertain | *c.* 1067–8 | *c.*16+ | 2+ | | | | | | | | | | | | | |
| Salisbury Plain | *c.* 1067–8? | – | 1+ | | | | | | | | | | | | | |
| Middleham | *c.* 1068–70 | – | – | 3+ | | | | | | | | | | | | |
| Oulton | *c.* 1068–70 | 15+ | 1+ | 4+ | | | | | | | | | | | | |
| York (Baile Hill) | *c.* 1068–70 | – | – | 3+ | | | | | | | | | | | | |
| York (Bishophill II) | *c.* 1068–70 | – | 5+ | 42+ | | | | | | | | | | | | |
| York (High Ousegate) | *c.* 1068–70 | – | x | x | | | | | | | | | | | | |
| York (Jubbergate I) | *c.* 1068–70 | – | x | x | | | | | | | | | | | | |
| Wallingford | *c.* 1068–70 | – | – | 2 | | | | | | | | | | | | |
| Corringham | Early 1070s | 76 | 12 | 11 | 1 | | | | | | | | | | | |
| Whitchurch | Early 1070s | 1+ | – | 2+ | 2+ | | | | | | | | | | | |
| London (Walbrook) | Early/Mid 1070s | 2,358+ | – | 2+ | – | 2+ | | | | | | | | | | |
| London (St. Mary at Hill) | Early/Mid 1070s | 59+ | 1+ | 1+ | 16+ | 2+ | | | | | | | | | | |
| Malmesbury | Early/Mid 1070s | – | – | 1+ | – | 10+ | | | | | | | | | | |
| Beddington Park | Early/Mid 1070s | – | – | – | – | 4 | | | | | | | | | | |
| Cranwich | Early/Mid 1070s | – | – | – | – | 2 | | | | | | | | | | |
| Tibberton | Early/Mid 1070s | – | – | – | – | 4 | | | | | | | | | | |
| Maltby Springs | *c.* 1080 | – | – | – | – | 1 | 4 | | | | | | | | | |
| Scaldwell | *c.* 1080 | – | – | – | – | – | 264 | | | | | | | | | |

| Hoard | Deposited | Earlier types | Profile Cross Fleury | Bonnet | Canopy | Two Sceptres | Two Stars | Sword | Profile Cross and Trefoils | Paxs | Profile | Cross in Quatrefoil | Cross Voided | Crosses Pattee and Fleury | Cross Fleury and Piles | Later types |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tiverton | *c.* 1080 | – | – | – | – | – | 6 | | | | | | | | | |
| York (Monkgate) | Early 1080s | – | – | – | – | 1+ | 42+ | 30+ | | | | | | | | |
| Winchester (Cath. Green) | Early 1080s | – | – | – | – | – | – | 2 | | | | | | | | |
| Bradenham | Mid–1080s | – | – | – | – | – | – | – | 2 | | | | | | | |
| *Abergavenny area*[963] | *Mid–1080s* | *130* | – | *1* | – | – | *62* | *4* | *2* | | | | | | | |
| Beauworth | Late 1080s | – | – | – | – | – | 31+ | 34+ | 11+ | 6,493+ | | | | | | |
| Louth area | Late 1080s | – | – | – | – | – | – | – | – | 2 | | | | | | |
| York (Jubbergate II) | Late 1080s | – | – | – | – | – | – | – | – | 8+ | | | | | | |
| Stalbridge | Early 1090s | – | – | – | – | – | – | – | – | – | 1+ | 1+ | | | | |
| Tamworth | Early 1090s | – | – | – | – | – | – | – | – | 30+ | 97+ | 167+ | | | | |
| Bermondsey | *c.* 1101 | – | – | – | – | – | – | – | – | – | – | 3 | – | 5 | – | 5 |
| Shillington | *c.* 1110–15 | – | – | – | – | – | – | – | – | – | 32+ | 52+ | 62+ | 16+ | – | 21+ |

[963] Four of the *Two Stars* coins are *Two Sceptres/Two Stars* mules.

**Table E.5: Hoard summaries, 1100–35**

| Hoard | Deposited | Earlier types | Type 1 | Type 2 | Type 3 | Type 4 | Type 5 | Type 6 | Type 9 | Type 8 | Type 7 | Type 11 | Type 10 | Type 12 | Type 13 | Type 14 | Type 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bermondsey | 1100–*c.* 1102 | 8 | 5 | | | | | | | | | | | | | | |
| Lewes[964] | 1100–*c.* 1102? | – | 2 | | | | | | | | | | | | | | |
| Andover | *c.* 1110? | – | – | – | – | – | – | – | 2 | | | | | | | | |
| Shillington | Early 1110s | 162+ | – | – | – | 1+ | – | – | – | – | 20+ | | | | | | |
| Toddington | Mid–1110s | – | – | – | – | – | – | – | – | – | – | 9 | | | | | |
| Carleton Rode | Late 1110s | – | – | – | – | – | – | – | – | – | – | – | 4 | | | | |
| Mansfield Woodhouse | Late 1110s | – | – | – | – | – | – | – | – | – | – | – | 75+ | | | | |
| 'South Oxfordshire' | Early 1120s | – | – | – | – | – | – | – | – | – | – | – | – | – | 18+ | | |
| Bournemouth | *c.* 1124–5 | – | – | – | – | – | – | – | – | – | – | – | 3 | – | 1 | 372+ | |
| Lincoln (Malandry) | 1125–Late 1120s? | – | – | – | – | – | – | 1+ | – | – | 30+ | 5+ | 186+ | 1+ | 162+ | 306+ | 54+ |
| King's Stanley | 1125–Late 1120s? | – | – | – | – | – | – | – | – | – | – | – | 1 | – | – | 2 | 2 |
| Lowestoft | 1125–Late 1120s? | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 6+ | 6+ |
| Battle | 1125–Mid–1130s | – | – | – | – | – | – | – | – | – | – | 1+ | 1+ | – | – | – | 11+ |
| Holbeck | 1125–Mid–1130s | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 2 |
| Knaresbrough | 1125–Mid–1130s | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 176 |
| London (Billingsgate) | 1125–Mid–1130s | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 2 |

[964] One coin is a *Cross Fleury and Piles/Amulets* mule.

**Table E.6: Summaries of later hoards containing coins struck before 1135**

| Hoard | Deposited | William I Two Stars | Henry I Type 1 | Henry I Type 9 | Henry I Type 10 | Henry I Type 14 | Henry I Type 15 | Stephen Type 1 | Stephen Type I Erased | Irregular/ Independent Types | Stephen Type 2 | Stephen Type 6 | Stephen Type 7 | Henry II Cross and Crosslets |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Watford | Early 1140s | 1+ | – | – | – | 59+ | 420+ | 644+ | – | 7+ | | | | |
| Nottingham | Early/mid 1140s | – | 1+ | – | 1+ | – | 12+ | 88+ | 41+ | 34+ | | | | |
| Wicklewood | *c.* 1170–5 | – | – | 1 | 1 | – | 15 | 44 | 2 | 7 | 109 | 134 | 29 | 140 |
| South Kyme | Early 1140s | – | – | – | 1 | – | 10 | 315 | 1 | 6 | | | | |
| Bedford area | *c.* 1140 | – | – | – | – | – | 1+ | 2+ | | | | | | |
| Grendon | *c.* 1140 | – | – | – | – | – | 1 | 2 | | | | | | |
| Latton | 1140s? | – | – | – | – | – | 1+ | 2+ | | | | | | |
| Ashby-de-la-Zouche | 1140s? | – | – | – | – | – | 1+ | 4+ | – | 5+ | | | | |
| Dartford/Gravesend | Early/mid 1140s | – | – | – | – | – | 4+ | 44+ | 1+ | 9+ | | | | |
| Prestwich | Early/mid 1140s | – | – | – | – | – | 66+ | 873+ | 32+ | 94+ | | | | |
| Linton | Mid/late 1140s | – | – | – | – | – | 7+ | 39+ | – | 8+ | 40+ | | | |
| Sheldon | Mid/late 1140s | – | – | – | – | – | 3 | 76 | 14 | 5 | 4 | | | |

**Table E.7: hoards of the period 924–1135 which are unidentifiable by type or do not contain English coins**

| Hoard | Deposited | Comments |
|---|---|---|
| Berwick | *c.* 899–946? | Edward the Elder Two-Line type, unidentified Two-line type |
| Rougham | 1023–29? | No information about contents |
| Southampton | 1023–29? | 22 Norman deniers |
| Stafford | 978–1042? | 3 *Quatrefoil* pennies of Shrewsbury amongst 200–300 coins |
| Oving | 1066? | Confessor's coins and Harold II *Pax* coins present |
| Offham | 1066? | Confessor's coins and Harold II *Pax* coins present |
| Uncertain | 1042–66? | Confessor's coins and Norman deniers |
| Bierley | 1068–70? | William I *Bonnet* type? |
| Bramham Moor | 1068–70? | William I *Bonnet* type? |
| Bury St. Edmunds (Mill Lane) | 1066–87? | William I's coins? |
| Colsterworth | 1066–87? | William I's coins? |
| Sutton | 1066–87? | William I's coins? |
| Beetham | 1016–1100 | Coins of Cnut to William II |

## Appendix F: Distances travelled by coins (from their mints of origin) found in hoards at 25km intervals, 924–1135

| Reign | 0-25 | % | 25-50 | % | 50-75 | % | 75-100 | % | 100-125 | % | 125-150 | % | 150-175 | % | 175-200 | % | >200 | % | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **924–*c.* 973** | **42** | *34.1* | **0** | *0.0* | **4** | *3.3* | **12** | *9.6* | **2** | *1.6* | **6** | *4.9* | **0** | *0.0* | **19** | *15.4* | **38** | *30.9* | **123** |
| **Edgar** | **5** | *6.8* | **4** | *5.5* | **6** | *8.2* | **1** | *1.4* | **7** | *9.6* | **16** | *21.9* | **8** | *11.0* | **11** | *15.0* | **15** | *20.5* | **73** |
| **Ed. Martyr** | **39** | *23.8* | **5** | *3.0* | **31** | *18.9* | **2** | *1.2* | **7** | *4.3* | **19** | *11.6* | **27** | *16.5* | **7** | *4.3* | **27** | *16.5* | **164** |
| **Æth. II** | **109** | *24.9* | **22** | *5.0* | **33** | *7.6* | **62** | *14.2* | **37** | *8.5* | **31** | *7.1* | **35** | *8.0* | **17** | *3.9* | **91** | *20.8* | **437** |
| **Cnut** | **8** | *1.0* | **40** | *5.2* | **180** | *23.3* | **31** | *4.0* | **390** | *50.5* | **4** | *0.5* | **13** | *1.7* | **48** | *6.2* | **58** | *7.5* | **772** |
| **Harold I*** | **2** | *5.1* | **7** | *17.9* | **0** | *0.0* | **4** | *10.3* | **9** | *23.1* | **1** | *2.6* | **0** | *0.0* | **8** | *20.5* | **8** | *20.5* | **39** |
| **Harthacnut** | **4** | *21.1* | **1** | *5.3* | **0** | *0.0* | **0** | *0.0* | **6** | *31.6* | **1** | *5.3* | **1** | *5.3* | **3** | *15.8* | **3** | *15.8* | **19** |
| **Ed. Conf.** | **1,633** | *31.4* | **463** | *8.9* | **501** | *9.6* | **664** | *12.8* | **538** | *10.4* | **282** | *5.4* | **421** | *8.1* | **313** | *6.0* | **383** | *7.4* | **5,198** |
| **Harold II** | **32** | *21.8* | **36** | *24.5* | **29** | *19.7* | **11** | *7.5* | **4** | *2.7* | **4** | *2.7* | **4** | *2.7* | **6** | *4.1* | **21** | *14.3* | **147** |
| **William I**** | **1,791** | *26.0* | **572** | *8.3* | **380** | *5.5* | **1,649** | *23.9* | **396** | *5.7* | **256** | *3.7* | **716** | *10.4* | **311** | *4.5* | **830** | *12.0* | **6,901** |
| ***c.* 973–1086** | **3,623** | *26.3* | **1,150** | *8.4* | **1,160** | *8.4* | **2,424** | *17.6* | **1,394** | *10.1* | **614** | *4.5* | **1,225** | *8.9* | **724** | *5.3* | **1,436** | *10.4* | **13,750** |
| **William II** | **33** | *14.3* | **35** | *15.2* | **23** | *10.0* | **11** | *4.8* | **29** | *12.6* | **5** | *2.2* | **67** | *29.1* | **9** | *3.9* | **18** | *7.8* | **230** |
| **Henry I** | **91** | *10.4* | **10** | *1.1* | **14** | *1.6* | **42** | *4.8* | **147** | *16.8* | **40** | *4.6* | **23** | *2.6* | **217** | *24.8* | **291** | *33.3* | **875** |
| **1086–1135** | **124** | *11.2* | **45** | *4.1* | **37** | *3.3* | **53** | *4.8* | **176** | *15.9* | **45** | *4.1* | **90** | *8.1* | **226** | *20.5* | **309** | *28.0* | **1,105** |
| **924–1135** | **3,789** | *25.3* | **1,195** | *8.0* | **1,201** | *8.0* | **2,489** | *16.6* | **1,572** | *10.5* | **665** | *4.4* | **1,315** | *8.8* | **969** | *6.5* | **1,783** | *11.9* | **14,978** |

*Harold I figure includes Harthacnut's *Jewel Cross* type. **William I figure includes the *Paxs* type for ease of comparison with the single-find data.

# Bibliography

## Manuscript Sources

Taunton, Somerset Archives and Local Studies, D/B/Ax 82

Taunton, Somerset Archives and Local Studies, D/B/Ax 961

## Printed Primary Sources

Ælfric, *Colloquy*, ed. G. N. Garmonsway, 2nd edn. (Exeter, 1978)

*An Eleventh-Century Inquisition of St. Augustine's Canterbury*, ed. A. Ballard (Oxford, 1920)

*Anglo-Saxon Charters*, ed. and transl. A. J. Robertson (Cambridge, 1939)

*Anglo-Saxon Wills*, ed. D. Whitelock (Cambridge, 1930)

*Anglo-Saxon Writs*, ed. and transl. F. Harmer (Manchester, 1952)

*Armes Prydein: The Prophesy of Britain. From the Book of Taliesin*, ed. I. Williams (Dublin, 1972)

Bede, *Ecclesiastical History of the English People*, eds. B. Colgrave and R. A. B. Mynors (London, 1992)

Bridgeman, C. G. O., 'The Burton Abbey Twelfth Century Surveys', in *Collections for a History of Staffordshire*, William Salt Archaeological Society (1916), 209–300

*Cartularium Monasterii de Ramseia*, ed. W. M. Hart and P. A. Lyons, Rolls Series 79, 3 vols. (London, 1884–93)

*Charters and Custumals of Shaftesbury Abbey, 1089–1216*, ed. N. E. Stacy (Oxford, 2006)

*Charters and Custumals of the Abbey of Holy Trinity, Caen*, ed. M. Chibnall (Oxford, 1982)

*Chronica Magistri Rogeri de Houedene,* ed. W. Stubbs, 4 vols. (London, 1871)

*Chronicon Abbatiae de Evesham, ad annum 1418*, ed. William Dunn MacRay (London, 1863)

*Chronicon Monasterii de Abingdon*, ed. Rev. J. Stephenson, 2 vols. (London, 1858)

*Chronicon Petroburgense*, ed. T. Stapleton, Camden Society (London, 1849)

D. C. Douglas and G. W. Greenaway (eds.), *English Historical Documents, 1042–1189*, vol. 2 (London, 1981)

D. Whitelock (ed.), *English Historical Documents, c. 500–1042*, vol. 1 (London, 1979)

*Diplomatarium Anglicum Ævi Saxonici*, ed. B. Thorpe (London, 1865)

*Domesday Book*, ed. J. Morris, 35 vols. (Chichester, 1975-86)

*Domesday Book*, eds. A. Williams and R. W. H. Erskine (London: Alecto Historical Editions, 1987–92)

*Domesday Book, seu Libri Censualis, Willelmi Primi Regis Angliae, additamenta ex Codic. Antiquiss*, ed. H. Ellis, 4 (London, 1816)

*Domesday Book: A Complete Translation*, eds. A. Williams and G. H. Martin (London, 2002)

*Epistolæ Innocentii III*, ed. S. Baluze, 2 vols. (Paris, 1682)

*Feudal Documents from the Abbey of Bury St. Edmunds*, ed. D. C. Douglas, British Academy, Records of the Social History of England and Wales, 8 (London, 1932)

Goscelin, 'Miracula Sancti Augustini episcope Cantuariensis', in *Acta Sanctorum Maii*, vi, 3rd edition (Paris, 1886), 393–408

Harrison, W., *Description of England in Shakespeare's Youth*, ed. F. J. Furnivall, 2 vols. (London, 1877–81)

Hemming, *Chartularium Ecclesiae Wigorniensis*, ed. T. Hearne, 2 vols. (Oxford, 1723)

Henry of Huntingdon, *Historia Anglorum*, ed. and trans. D. Greenway (Oxford, 1996)

*Leechdoms, Wortcunning and Starcraft of Early England*, ed. Rev. O. Cockayne, 3 vols. (London, 1866)

*Leges Henrici Primi*, ed. and transl. L. J. Downer (Oxford, 1972)

*Liber Eliensis*, ed. E. O. Blake (London, 1962)

Liebermann, F., *Die Gesetze der Angelsachsen*, 3 vols. (Halle, 1903–16)

*Memorials of St. Dunstan*, ed. W. Stubbs (London, 1874)

*Monasticon Anglicanum, sive Pandectae Coenobiorum*, eds. R. Dodsworth and W. Dugdale, 3 vols. (London, 1655)

O'Brien, B., *God's Peace and King's Peace: The Laws of Edward the Confessor* (Pennsylvania, 1999)

*Regesta Regum Anglo-Normannorum, 1066–1154*, ed. H. W. C. Davis, 4 vols. (Oxford, 1913)

*Registrum sive Liber Irrotularius et Consuetudinarius Prioratus Beatae Mariae Wigorniensis,* ed. W. Hale Hale, Camden Old Ser. 91 (London, 1865)

Richard fitzNigel, *Dialogus de Scaccario: the Dialogue of the Exchequer*, ed. and transl. E. Amt. *Constitutio Domus Regis: Disposition of the King's Household*, ed. and transl. S. D. Church (Oxford, 2007)

Roger of Wendover, *Chronica, sive Flores Historiarum*, ed. H. O. Coxe, 2 vols. (London, 1841)

*Select Documents of the English Lands of the Abbey of Bec*, ed. M. Chibnall, Camden 3rd ser., vol. 73 (London, 1951)

*Select English Historical Documents from the Ninth and Tenth Centuries*, ed. F. E. Harmer (Cambridge, 1914)

*Select Tracts and Table Books Relating to English Weights and Measures (1100–1742)*, eds. H. Hall and F. J. Nicholas, Camden 3rd Ser. 41 (London, 1929)

Symeon of Durham, *Opera Omnia*, ed. T. Arnold (London, 1882-5)

*The Acts of the Parliaments of Scotland: A.D. MCXXIV–MCCCCXXIII*, 12 vols. (Edinburgh, 1814)

*The Anglo-Saxon Chronicle*, eds. D. Whitelock, D. C. Douglas and S. I. Tucker (London, 1961)

*The Chronicle of Battle Abbey*, ed. and transl. E. Searle (Oxford, 1980)

*The Chronicle of Hugh Candidus*, ed. W. T. Mellors (Oxford, 1949)

*The Chronicle of John of Worcester: The Annals from 450 to 1066*, eds. R. R. Darlington and P. McGurk, 2 vols. (Oxford, 1995–98)

*The Domesday Monachorum of Christ Church Canterbury*, ed. D. C. Douglas (London, 1944)

*The Domesday of St. Paul's of the Year MCCXXII*, ed. W. H. Hale, Camden Society (London, 1858)

*The Ecclesiastical History of Orderic Vitalis*, ed. and transl. M. Chibnall, 6 vols. (Oxford, 1968)

*The Great Roll of the Pipe for the Thirty First Year of the Reign of King Henry I, Michaelmas 1130*, ed. and transl. J. A. Green (London, 2012)

*The Kalendar of Abbot Samson of Bury St. Edmunds and Related Documents*, ed. R. H. C. Davis, Camden Society (London, 1954)

*The Laws of the Earliest English Kings*, ed. and transl. F. L. Attenborough (Cambridge, 1922)

*The Laws of the Kings of England from Edmund to Henry I*, ed. and transl. A. J. Robertson (Cambridge, 1925)

*The Shorter Pepys*, ed. R. Latham (London, 1985)

*The Statutes of the Realm: From original records, etc (1101–1713)*, eds. T. Edlyn Tomlins, J. France, A. Luders, J. Raithby and W.E. Tauton, 11 vols. (London, 1810–28)

William of Malmesbury, *Gesta Regum Anglorum*, ed. and trans. R. A. B. Mynors, R. M. Thomson, and M. Winterbottom, 2 vols. (Oxford, 1998–99)

*Yorkshire Inquisitions of the Reigns of Henry III and Edward I*, ed. W. Brown, 3 vols. (Record Series, 1892)

**Secondary Sources**

Abels, R. P., *Lordship and Military Obligation in Anglo-Saxon England* (London, 1988)

Allen, D. F., *A Catalogue of English Coins in the British Museum: The Cross-and-Crosslets Type of Henry II* (London, 1951)

Allen, M., 'Henry I type 14', *BNJ*, 79 (2009), 72–171

Allen, M., 'Medieval English Die-Output', *BNJ*, 74 (2004), 39–49

Allen, M., 'Mints and Money in Norman England', *ANS*, 34 (2012), 1–21

Allen, M., 'Silver Production and Money Supply in England and Wales, 1086–*c.*1500', *EcHR*, 64 (2011), 114–31

Allen, M., 'The English Coinage of 1153/4–1158', *BNJ*, 76 (2006), 242–302

Allen, M., 'The Volume of the English Currency, 1158–1470', *EcHR*, 54 (2001), 595–611

Allen, M., 'The Volume of the English Currency, *c.* 973–1158', in B. Cook and G. Williams (eds.), *Coinage and History in the North Sea World c. 500–1200* (Brill, 2006), 487–523

Allen, M., *Mints and Money in Medieval England* (Cambridge, 2012)

Allen Brown, R., 'The Battle of Hastings', in M. Strickland (ed.), *Anglo-Norman Warfare* (Woodbridge, 1992), 161–81

Archibald, M. M., 'Against the Tide: Coin-movement from Scandinavia to the British Isles in the Viking Age', *NNF-Nytt* 1 (1991), 13–22

Archibald, M. M. and Blunt, C. E., *British Museum V. Athelstan to the Reform of Edgar*, *SCBI*, 34 (London, 1986)

Archibald, M. M., 'Coins', in *English Romanesque Art 1066–1200: Hayward Gallery, London, 5 April–8 July 1984* (London, 1984), 320–41

Archibald, M. M., 'The Titchmarsh (Northants.) hoard of Harold I pennies *c.* 1040', *Coin Hoards*, 6 (1985), no. 545

Archibald, M. M., 'Toddington, Bedfordshire, 1995', *NC*, 157 (1997), no. 51.

Archibald, M. M., 'Corringham, Lincolnshire, 1994', *NC*, 156 (1996), no. 131.

Astill, G. G., 'General Survey', in D. M. Palliser (ed.), *The Cambridge Urban History of Britain: 600–1540*, vol. 1 (Cambridge, 2000), 27–49

Banham, D., *Food and Drink in Anglo-Saxon England* (Stroud, 2004)

Barlow, F., *Edward the Confessor* (London, 1970), and 2nd edition (New Haven and London, 1997)

Barlow, F., *The English Church, 1000–1066: A History of the Later Anglo-Saxon Church* (London, 1979)

Barlow, F. (ed. and transl.), 'The Winton Domesday', in M. Biddle (ed.), *Winchester in the Early Middle Ages: An Edition and Discussion of the Winton Domesday*, Winchester Studies 1 (Oxford, 1976), 1–141

Barnwell P. S. and Roberts, B. K. (eds.), *Britons, Saxons and Scandinavians: The Historical Geography of Glanvill R. J. Jones* (Turnhout, 2012)

Barrett, J. H., Locker, A. M. and Roberts, C. M., "Dark Age Economics' revisited: the English fish bone evidence AD 600–1600', *Antiquity*, 78 (2004), 618–36

Bartlett, R., *England Under the Norman and Angevin Kings, 1075–1225* (Oxford, 2000)

Basford, F. and Williams, G., 'Arreton area, Isle of Wight, 2007', *NC*, 169 (2009), no. 68.

Baxter, S., 'Lordship and Labour', in J. Crick and E. Van Houts (eds.), *A Social History of England, 900–1200* (Cambridge, 2011), 98–114

Baxter, S., *The Earls of Mercia* (Oxford, 2007)

Baxter, S. and Blair, J., 'Land Tenure and Royal Patronage in the Early English Kingdom: A Model and a Case Study', *ANS*, 28 (2006), 19–46

Becker, C. J., 'Studies in the Danish Coinage at Lund during the period *c.* 1030–*c.* 1046', in M. Blackburn and D. M. Metcalf (eds.), *Viking Age Coinage in the Northern Lands: The Sixth Oxford Symposium on Coinage and Monetary History* (Oxford, 1981), 449–77

Beresford, G., *Goltho: the Development of an Early Medieval Manor, c. 850–1150* (London, 1987)

Besly, E. M., 'Abergavenny Area, Monmouthshire, Wales', *TAR* (2002), no. 217

Besly, E., 'Few and far between: mints and coinage in Wales to the middle of the thirteenth century', in B. Cook and G. Williams (eds.), *Coinage and History in the North Sea World c. 500–1250* (Brill, 2006), 701–19

Bevan, A., 'Spatial Methods for Analysing Large-Scale Artefact Inventories', *Antiquity*, 86 (2012), 492–506

Biddle, M. (ed.), *The Winchester Mint: and Coins and Related Finds from the Excavations of 1961–71* (Oxford, 2012)

Biddle, M. (ed.), *Winchester in the Early Middle Ages: An Edition and Discussion of the Winton Domesday*, Winchester Studies 1 (Oxford, 1976)

Biddle, M. and Keene, D. J., 'Winchester in the Eleventh and Twelfth Centuries', in M. Biddle (ed.), *Winchester in the Early Middle Ages: An Edition and Discussion of the Winton Domesday*, Winchester Studies 1 (Oxford, 1976), 221–448

Birrell, J., 'Procuring, Preparing and Serving Venison in Late Medieval England', in C. M. Woolgar, D. Sergeantson and T. Waldron (eds.), *Food in Medieval England: Diet and Nutrition* (Oxford, 2006), 177–88

Bishop, T. A. M., 'Assarting and the Growth of the Open Fields', *EcHR*, 6 (1938), 13–29

Bisson, T. N., *Conservation of Coinage: Monetary Exploitation and its Restraint in France, Catalonia and Aragon (c. AD 1000–c. 1225)* (Oxford, 1979)

Blackburn, M. A. S. and Bonser, M. J., 'Single-Finds of Anglo-Saxon and Norman Coins – 2', *BNJ*, 55 (1985), 55–78

Blackburn, M. A. S. and Newman, J., 'A small hoard from Polstead, Suffolk deposited *c.* 1035', *BNJ*, 61 (1991) 124–25.

Blackburn, M. A. S. and Rogerson, A., 'A small purse hoard of Harthacnut coins from Bowthorpe, Norfolk', *BNJ*, 61 (1991), 125–26

Blackburn, M. A. S., 'The Welbourn (Lincs.) hoard 1980–82 of Æthelred II coins', *BNJ*, 55 (1985), 79–83

Blackburn, M. and Bonser, M., 'Small Fused Group of Coins from the Reign of Edgar (959–75) Found Near North Owersby', *NCirc*, 97 (1989), 255

Blackburn, M. and Jonsson, K., 'The Anglo-Saxon and Anglo-Norman Element of North European Coin Finds', in M. Blackburn and D. M. Metcalf (eds.), *Viking Age Coinage in the Northern Lands: The Sixth Oxford Symposium on Coinage and Monetary History* (Oxford, 1981), 147–255

Blackburn, M. and Lyon, S., 'Regional die-production in Cnut's *Quatrefoil* issue', in M. A. S. Blackburn (ed.), *Anglo-Saxon Monetary History: essays in memory of Michael Dolley* (Leicester, 1986), 223–72

Blackburn, M. and Metcalf, D. M. (eds.), *Viking Age Coinage in the Northern Lands: The Sixth Oxford Symposium on Coinage and Monetary History* (Oxford, 1981)

Blackburn, M., '"Productive" Sites and the Pattern of Coin Loss in England, 600–1180', in T. Pestell and K. Ulmschneider (eds.), *Market in Early Medieval Europe: Trading and 'Productive Sites', 650–850* (Trowbridge, 2003), 20–36

Blackburn, M., 'A penny of Coenwulf and a small hoard of Cnut from Bottisham, Cambridgeshire', *BNJ*, 53 (1993) 176–77

Blackburn, M., 'Coinage and Currency Under Henry I', *ANS,* 13 (1990), 49–81

Blackburn, M., 'Gold in England During the 'Age of Silver' (Eighth–Eleventh Centuries', in J. Graham-Campbell and G. Williams (eds.), *Silver Economy in the Viking Age* (Walnut Creek, 2007), 55–98

Blackburn, M., 'Mints, Burhs and the Grateley Code, cap. 14.2', in D. Hill and A. Rumble (eds.), *The Defence of Wessex: The Burghal Hidage and Anglo-Saxon Fortifications* (Manchester, 1996), 160–75

Blackburn, M., 'Thetford, near, Norfolk, England, 1993/4', *NC*, 155 (1995), no. 13

Blair, J., *Anglo-Saxon Oxfordshire* (Stroud, 1994)

Blair, J., *The Church in Anglo-Saxon Society* (Oxford, 2005)

Blair, J., 'The Small Towns 600–1270', in D. M. Palliser (ed.), *The Cambridge Urban History of Britain: 600–1540*, vol. 1 (Cambridge, 2000), 245–70

Bland, R. F., 'Warlaby, North Yorkshire, 1997', *NC*, 158 (1998), no. 38.

Blunt C. and Dolley, R. H. M., 'Coins from the Winchester Excavations 1961–73', *BNJ*, 47 (1977), 135–38

Blunt C. E. and Lyon, C. S. S., 'The Oakham Hoard of 1749, deposited *c.* 980', *NC*, 19 (1979), 111–21

Blunt, C. E. and Pagan, H. E., 'Three Tenth-Century Hoards: Bath (1755), Kintbury (1761), Threadneedle Street (before 1924)', *BNJ*, 45 (1975), 19–32

Blunt, C. E., Stewart, B. H. I. H. and Lyon, C. S. S., *Coinage in Tenth-Century England: from Edward the Elder to Edgar's Reform* (London, 1989)

Blunt, C., 'Grangerized copies of Ruding's Annals', *NCirc*, 84 (1976), 226–27

Bolton, J. L., *Money in the Medieval English Economy, 973–1489* (Manchester, 2012)

Bolton, J. L., 'What is Money? What is a Money Economy? When did a Money Economy Emerge in Medieval England?', in D. Wood (ed.), *Medieval Money Matters* (Oxford, 2004), 1–15

Bonser, M. and Moesgaard, J. C., 'Haverhill, Suffolk, 1994', *NC*, 157 (1997), no. 50.

Boon, G. C., Welsh Hoards, 1979–81 (Cardiff, 1986)

Bridbury, A. R., 'Domesday Book: a Re-interpretation', *EHR*, 105 (1990), 284–309

Bridbury, A. R., *The English Economy from Bede to the Reformation* (Woodbridge, 1992)

Britnell, R. H. and Campbell, B. M. S. (eds.), *A Commercialising Economy, England c. 1086–1300* (Manchester, 1995)

Britnell, R. H., 'Commercialisation and economic development in England, 1000–1300', in R. H. Britnell and B. M. S. Campbell (eds.), *A Commercialising Economy, England c. 1086–1300* (Manchester, 1995), 7–26

Britnell, R. H., *The Commercialisation of English Society* (Cambridge, 1993)

Britnell, R. H., 'The Proliferation of Markets in England, 1200–1349', *EcHR*, 34 (1981), 209–21

Brooke, G. C., 'Quando Moneta Vertebatur: The Change of Coin-Types in the Eleventh Century; it's Bearing on Mules and Overstrikes', *BNJ*, 20 (1929–30), 105–16

Brown, I. D., 'Active Mints and the Survival of Norman Coins', *BNJ*, 67 (1997), 1–10

Burnett, L. and Williams, G., 'Berwick, East Sussex 2007', *NC*, 169 (2009), no 65

Burrows, O., 'An Unnoticed Parcel from the 1872 Queen Victoria Street Hoard', *BNJ*, 47 (1977), 66–76

Butler, V. J. and Dolley, R. H. M., 'New Light on the Nineteenth-Century Find of Pence of Æthelred II from St. Martin's-Le-Grand', *BNJ*, 29 (1959), 265–74

Buttrey, T. V., 'Calculating Ancient Coin Production: Facts and Fantasies', *NC*, 153 (1993), 335–51

Cameron, M. L., *Anglo-Saxon Medicine* (Cambridge, 1993)

Campbell, B. M. S., 'Measuring the commercialisation of seigneurial agriculture *c.* 1300', in R. H. Britnell and B. M. S. Campbell (eds.), *A Commercialising Economy, England c. 1086–1300* (Manchester, 1995), 132–93

Campbell, J., 'Domesday Herrings', in C. Harper-Bill, C. Rawcliffe and R. G. Wilson (eds.), *East Anglia's History: Studies in honour of Norman Scarfe* (Woodbridge, 2002), 5–17

Campbell, J., 'Hundreds and Leets: A Survey with Suggestions', in C. Harper-Bill (ed.), *Medieval East Anglia* (Woodbridge, 2005), 153–67

Campbell, J., 'Some Agents and Agencies of the Late Anglo-Saxon State', in J. Campbell (ed.), *The Anglo-Saxon State* (London, 2000), 201–25

Campbell, J., 'The Late Anglo-Saxon State: A Maximum View', in J. Campbell (ed.), *The Anglo-Saxon State* (London, 2000), 1–30

Campbell, J., 'Was it Infancy in England? Some Questions of Comparison', in J. Campbell (ed.), *The Anglo-Saxon State* (London, 2000), 179–99

Campbell, J., John E. and Wormald, P., *The Anglo-Saxons* (London, 1991)

Cassidy, R., 'The Exchanges, Silver Purchases and Trade in the Reign of Henry III', *BNJ*, 81 (2011), 107–18

Cathers, K., 'An Examination of the Horse in Anglo-Saxon England' (University of Reading Ph.D thesis, 2002)

Chapman, C. R., *How Much, How Heavy and How Long?* (Dursley, 1995)

Christmas, H., 'Unpublished English and Anglo-Gallic Coins', *NC*, 1 (1861), 17–31

Clanchy, M., *From Memory to Written Record: England 1066–1307*, 2nd edn. (Oxford, 1992)

Clark, J. (ed.), *The Medieval Horse and its Equipment, c. 1150–c. 1450* (Woodbridge, 2004)

Clarke, P. A., *The English Nobility Under Edward the Confessor* (Oxford, 1994)

Clough, T. H. McK., 'A small hoard of William I type I pennies from Norwich', *BNJ*, 43 (1973) 142–43

Clough, T. H. McK., *Museums in East Anglia*, *SCBI*, 26 (London, 1980)

Connor, R. D., *The Weights and Measures of England* (London, 1987)

Connor, R. D. and Simpson, A. D. C., Morrison-Low, A. D. (ed.), *Weights and Measures in Scotland: A European Perspective* (Edinburgh, 2004)

Cook, B., 'Foreign coins in medieval England', in L. Travaini (ed.), *Local coins, foreign coins: Italy and Europe 11th–15th centuries. The Second Cambridge Numismatic Symposium*, Società Numismatica Italiana Collana di Numismatica e Scienze Affini, 2 (Milan, 1999), 231–84

Cook, B. and Williams, G. (eds.), *Coinage and History in the North Sea World c. 500–1250* (Brill, 2006)

Cooper, A., 'The Rise and Fall of the Anglo-Saxon Law of the Highway', *Haskins Society Journal*, 12 (2002), 39–69

Corbett, W. J., *Cambridge Medieval History*, 5 (Cambridge, 1926)

Crafter, T. C. R., 'A Re-examination of the Classification and Chronology of the *Cross-and-Crosslets* type of Henry II', *BNJ*, 68 (1998)

Crafter, T. C. R., 'Monetary Expansion in Britain in the Late Twelfth Century' (Oxford University D.Phil. Dissertation, 2008)

Cramp, R., *Anglian and Viking York* (York, 1967)

Crick, J. and Van Houts, E. (eds.), *A Social History of England, 900–1200* (Cambridge, 2011)

Crumlin-Pedersen, O. and Olsen, O. (eds.), *The Skuldelev Ships I: Topography, Archaeology, History, Conservation and Display* (Roskilde, 2002)

Darby, H. C., *Domesday England* (Cambridge, 1977)

Darby, H. C., *The Domesday Geography of Eastern England* (Cambridge, 1971)

Darby, H. C. and Maxwell, I. S. (eds.), *The Domesday Geography of Northern England* (Cambridge, 1962)

Darby, H. C. and Welldon Finn, R. (eds.), *The Domesday Geography of South-West England* (Cambridge, 1967)

Davis, R. H. C., 'East Anglia and the Danelaw', *TRHS*, 5th ser., 5 (1955), 23–39

Davis, R. H. C., *King Stephen, 1135–1154* (London, 1990), 22–33

Davis, R. H. C., 'Introduction', in R. H. C. Davis (ed.), *The Kalendar of Abbot Samson of Bury St. Edmunds and Related Documents*, Camden Society (London, 1954), ix–xlvii

Day, E., 'Sokemen and Freemen in Late-Anglo-Saxon East Anglia in Comparative Context' (University of Cambridge Ph.D. thesis, 2011)

Dodwell, C. R., *Anglo-Saxon Art: A New Perspective* (Manchester, 1982)

Dolley, M. and Lyon, S., 'Additional evidence for the sequence of types early in the reign of Edward the Confessor', *BNJ*, 36 (1967), 59–61

Dolley, M., 'A Note on the 1871/1872 Barrowby (Grantham, Lincs.) Find of Later Anglo-Saxon Pennies', *Seaby's Coin and Medal Bulletin*, 721 (1978), 343–45

Dolley, M., 'Roger of Wendover's Date for Eadgar's Coinage Reform', *BNJ*, 49 (1979), 1–11

Dolley, M., 'The Coins', in D. M. Wilson (ed.), *The Archaeology of Anglo-Saxon England* (London, 1976), 349–72

Dolley, M., *The Norman Conquest and the English Coinage* (London, 1966)

Dolley, R. H. M. and Metcalf, D. M., 'Cnut's Quatrefoil Type in English Cabinets of the Eighteenth Century', *BNJ*, 29 (1958–59), 69–81

Dolley, R. H. M. and Strudwick, J. S., 'A note on the mint of Torksey and on some early finds of English coins from Nottinghamshire', *NC*, 16, (1956) 293–302

Dolley, R. H. M., 'En penning fra Magnus den Gode fundet i England', *Nordisk Numismatik Unions Medlemsblad* (1957), 253–56

Dolley, R. H. M., 'The coins and jettons', in C. Platt and R. Coleman-Smith (eds.), *Excavations in medieval Southampton 1953-1969. Vol. 2: The Finds* (Leicester, 1975), 315–31

Dolley, R. H. M., 'The Stockbridge Down find of Anglo-Saxon coins', BNJ, 28 (1955–57), 283–87

Dolley, R. H. M., 'Three forgotten English finds of pence of Æthelræd II', *NC*, 18 (1958), 97–107

Dolley, R. H. M., 'A Small Parcel of First Hand Pennies of Æthelred II from the 1863 Ipswich Hoard', *BNJ* 33 (1964), 34–38

Dolley, R. H. M., and Metcalf, D. M., 'The Reform of the Coinage Under Eadgar', in R. H. M. Dolley (ed.), *Anglo-Saxon Coins* (London, 1961), 136–68

Dolley, R. H. M., 'The Find-Spot of the "War Area" Hoard of Pence of William I", *BNJ*, 28 (1955–57), 650–51

Dolley, R. H. M., 'The Shaftesbury Hoard of Pence of Æthelred II', *NC*, 16 (1956), 267–80

Dolley, R. H. M., 'The Tywardreath (Fowey) Treasure Trove', *NC*, 15 (1955), 5–9

Dolley, R. H. M., 'The Unpublished 1895 Find of Coins of Edward the Confessor from Harewood', *The Yearbook of the British Association of Numismatic Societies*, 7 (1961), 17–25

Dolley, R. H. M., 'Two coins of Edgar recently discovered at York', *NC*, 12 (1952), 118

Duplessy, J., *Les Tresors Monetaires Medievaux et Modernes Decouverts en France* (Paris, 1985)

Dyer, A., 'Ranking Lists of English Medieval Towns', in D. M. Palliser (ed.), *The Cambridge Urban History of Britain: 600–1540*, vol. 1 (Cambridge, 2000), 747–70

Dyer, C., 'Appendix 3: A note on calculation of GDP for 1086 and *c.* 1300', in R. H. Britnell and B. M. S. Campbell (eds.), *A Commercialising Economy, England c. 1086–1300* (Manchester, 1995), 196–98

Dyer, C., *Making a Living in the Middle Ages: the People of Britain, 850–1520* (Yale, 2002)

Dyer, C., 'Peasants and Coins: the Uses of Money in the Middle Ages', *BNJ*, 67 (1997), 30–47

Dyer, C., 'Small Towns 1270–1540', in D. M. Palliser (ed.), *The Cambridge Urban History of Britain: 600–1540*, vol. 1 (Cambridge, 2000), 505–37

Dyer, C., *Standards of Living in the Later Middle Ages: Social Change in England c. 1200–1520* (Cambridge, 1989)

Dyer, C., 'The Hidden Trade of the Middle Ages: evidence from the West Midlands of England', *Journal of Historical Geography*, 18 (1992), 141–57

Eaglen, R., 'The mint of Huntingdon', *BNJ*, 69 (1999), 47–145

Esty, W., 'How to estimate the original number of dies and the coverage of a sample', *NC*, 166 (2006), 359–64

Faith, R., *The English Peasantry and the Growth of Lordship* (Leicester, 1997)

Farmer, D. L., 'Prices and Wages', in H. E. Hallam (ed.), *The Agrarian History of England and Wales*, vol. 2, *1042–1350* (Cambridge, 1988), 715–817

Fleming, R., *Britain After Rome: The Fall and Rise, 400 to 1070* (London, 2010)

Fleming, R., 'Domesday Estates of the King and the Godwines: A Study in Late Saxon Politics', *Speculum*, 58 (1983), 987–1007

Fleming, R., *Kings and Lords in Conquest England* (Cambridge, 1995)

Fleming, R., 'Land Use and People', in J. Crick and E. Van Houts (eds.), *A Social History of England, 900–1200* (Cambridge, 2011), 15–37

Fleming, R., 'Rural Elites and Urban Communities in Late-Saxon England', *P&P*, 141 (1993), 3–37

Fleming, R., 'The New Wealth, the New Rich and the New Political Style', *ANS*, 23 (2000), 1–22

Förster, M., *Der Flussname Themse und seine Sippe* (Munich, 1941)

Freeman, A., *The Moneyer and the Mint in the Reign of Edward the Confessor, 1042–66*, 2 vols. (Oxford, 1985)

Galbraith, V. H., 'The Making of Domesday Book', *EHR*, 57 (1942), 161–77

Galster, G., *Royal Collection of Coins and Medals, National Museum, Copenhagen*, *SCBI*, 7 (1966)

Gannon, A. and Williams, G., 'Two Small Hoards of William I', *BNJ*, 71 (2001), 162–64

Gardiner, M., 'Shipping and Trade Between England and the Continent During the Eleventh Century', *ANS*, 22 (1999), 71–93

Gazeau, V., 'The Effect of the Conquest of 1066 on Monasticism in Normandy: the Abbeys of the Risle Valley', in D. Bates and A. Curry (eds.), *England and Normandy in the Middle Ages* (London, 1994), 131–42

Gillingham, J., '"The Most Precious Jewel in the English Crown?" Levels of Danegeld and Heregeld in the Eleventh Century', *EHR*, 104 (1989), 373–84

Gillingham, J., 'Thegns and Knights in Eleventh-Century England: who was then the Gentleman?', *TRHS*, 5 (1995), 129–53

Gillingham, J., 'Chronicles and Coins as Evidence for Levels of Tribute and Taxation in the Late Tenth and Early Eleventh Century England', *EHR*, 105 (1990), 939–50

Godden, M. R., 'Money, Power and Morality in Late Anglo-Saxon England', *ASE*, 19 (1990), 41–65.

Graham-Campbell, J. A., "The re-provenancing of a Viking-Age hoard to the Thames, near Deptford (S.E. London)", *BNJ*, 56 (1986), 186–87

Graham-Campbell, J. A., 'The Viking-age silver hoards of Ireland', in B. Almqvist and D. Greene (eds.), *Proceedings of the Seventh Viking Congress* (Dundalk, 1976), 39–74

Graham-Campbell, J. and Williams, G. (eds.), *Silver Economy in the Viking Age* (Walnut Creek, 2007)

Grassi, J., 'The Lands and Revenues of Edward the Confessor', *EHR*, 117 (2002), 251–83

Green, J., *The Aristocracy of Norman England* (Cambridge, 1997)

Green, J., *The Government of England Under Henry I* (Cambridge, 1986)

Green, J., 'The Last Century of Danegeld', *EHR*, 96 (1981), 241–58

Gregory, C., *Savage Money: The Anthropology and Politics of Community Exchange* (Amsterdam, 1997)

Grierson, P., 'Domesday Book, the Geld *de Moneta* and *Monetagium*: a Forgotten Minting Reform', *BNJ*, 55 (1985), 84–94

Grierson, P., 'Numismatics and the Historian', *NC*, 2 (1962), i–xiv

Grierson, P., 'The Monetary System Under William I', in A. Williams (ed.), *Domesday Book: Studies*, Alecto Historical Editions (London, 1987), 75–79

Grierson, P., 'The Volume of the Anglo-Saxon Coinage', *EcHR*, 20 (1967), 153–60

Grierson, P., 'Weights and Measures' in A. Williams (ed.), *Domesday Book: Studies*, Alecto Historical Editions (London, 1987), 80–85

Griffiths, D., Philpott, R. A. and Egan, G., *Meols: The Archaeology of the North Wirral Coast* (Oxford, 2007)

Gunstone, A. J. H., *Ancient British, Anglo-Saxon and Norman Coins in West Country Museums*, *SCBI*, 24 (London, 1977)

Hagen, A., *Anglo-Saxon Food and Drink* (Ely, 2010)

Hallam, H. E., 'Population Movements in England, 1086−1350', , in H. E. Hallam (ed.), *The Agrarian History of England and Wales*, vol. 2, *1042–1350* (Cambridge, 1988), 508−93

Hallam, H. E., (ed.), *The Agrarian History of England and Wales*, vol. 2, *1042–1350* (Cambridge, 1988), 45–136

Harris, M., *Culture, People, Nature: an Introduction to General Anthropology* (New York, 1980)

Hart, C., *The Danelaw* (London, 1992)

Harvey, P. D. A., 'Rectitudines Singularum Personarum and Gerefa', *EHR*, 108 (1993), 1–22

Harvey, P. D. A., 'The English Inflation of 1180–1220', *Past and Present*, 61 (1973), 3–30

Harvey, S., 'Domesday England', in H. E. Hallam (ed.), *The Agrarian History of England and Wales*, vol. 2, *1042–1350* (Cambridge, 1988), 45–136

Harvey, S., 'Taxation and the Economy', in J. C. Holt (ed.), *Domesday Studies* (Woodbridge, 1987), 249–64

Harvey, S., 'The Knight and the Knight's Fee in England', *Past and Present*, 49 (1970), 3–43

Harvey, Y., 'Catalogue and Die-Analysis of the Winchester Mint-Signed Coins', in M. Biddle (ed.), *The Winchester Mint: and Coins and Related Finds from the Excavations of 1961–71* (Oxford, 2012), 86–577

Hatcher, J. and Bailey, M., *Modelling the Middle Ages: The History and Theory of England's Economic Development* (Oxford, 2001)

Hey, D., *Packmen, Carriers and Packhorse Roads* (Leicester, 2001)

Higham, N. J., 'Settlement, Land Use and Domesday Ploughlands', *Landscape History*, 12 (1989), 3–43.

Hildebrand, B. E., *Anglosachsiska mynt i Svenska Kongliga Myntkabinettet funna i Sveriges jord* (Stockholm, 1881)

Hill, D., *An Atlas of Anglo-Saxon England* (Oxford, 1981)

Hill, D. and Rumble, A. (eds.), *The Defence of Wessex: The Burghal Hidage and Anglo-Saxon Fortifications* (Manchester, 1996)

Hindley, A., Langley, F. W. and Levy, B. J., *Old French–English Dictionary* (Cambridge, 2000)

Hinton, D. A., *Archaeology, Economy and Society: England from the Fifth to the Fifteenth Century* (London, 1990)

Hodges, R., *Primitive and Peasant Markets* (Oxford, 1988)

Hollister, C. W., *Anglo-Saxon Military Institutions on the Eve of the Norman Conquest* (London, 1962)

Holmes, U. T., *Daily Living in the Twelfth Century: Based on the Observations of Alexander Neckam in London and Paris* (Toronto, 1952)

Holt, J. C. (ed.), *Domesday Studies* (Woodbridge, 1987)

Holt, R., 'Society and Population 600–1300', in D. M. Palliser (ed.), *The Cambridge Urban History of Britain: 600–1540*, vol. 1 (Cambridge, 2000), 79–104

Hooke, D., *The Landscape of Anglo-Saxon England* (Leicester, 1998)

Hooke, D., 'The Mid-Late Anglo-Saxon Period: Settlement and Land Use', in D. Hooke and S. Burnell (eds.), *Landscape and Settlement in Britain: AD 400–1066* (Exeter, 1995), 95–114

Hooper, N., 'The Housecarls in England in the Eleventh Century', *ANS*, 7 (1984), 161–76

Hopkinson, B., *Salt and the Domesday Salinae at Droitwich, AD 674 to 1690: a Quantitative Analysis*, Droitwich Brine Springs and Archaeological Trust, with Worcestershire Archaeological Society (Stroud, 1996)

Hoyt, R. S., *The Royal Demesne in English Constitutional History: 1066–1272* (Cornell, 1950)

Hudson, J., 'Maitland and Anglo-Norman Law', in J. Hudson (ed.), *The History of English Law. Centenary Essays on "Pollock and Maitland"* (Cambridge, 1996), 21–46

Hyams, P. R., *Rancor and Reconciliation in Medieval England* (Cornell, 2003)

Isager S., and Skydsgaard, J. E., *Ancient Greek Agriculture: an Introduction* (London, 1992), 89

Jensen, O., 'The "Denarius Sancti Petri" in England', *TRHS*, 15 (1901), 171–247

Jones, G. R. J., 'The Multiple Estate as a Model Framework for Tracing Early Stages in the Evolution of Rural Settlement', in P. S. Barnwell and B. K. Roberts (eds.), *Britons, Saxons and Scandinavians: The Historical Geography of Glanvill R. J. Jones* (Turnhout, 2012), 143–54

Jones, S. R. H., 'Devaluation and the Balance of Payments in Eleventh-Century England: An Exercise in Dark Age Economics', *EcHR*, 44 (1991), 594–607

Jonsson, K., (ed.), *Studies in Late-Anglo-Saxon Coinage: In Memory of Bror Emil Hildebrand*, Svenska Numismatiska Meddelanden, 35 (Stockholm, 1990)

Jonsson, K., 'The Pre-Reform Coinage of Edgar–The Legacy of the Anglo-Saxon Kingdoms', in B. Cook and G. Williams (eds.), *Coinage and History in the North Sea World c. 500–1200* (Brill, 2006), 325–46

Jonsson, K., *The New Era: The Reformation of the Late Anglo-Saxon Coinage* (Stockholm, 1987)

Keats-Rohan, K. S. B., *Domesday People: A Prosopography of Persons Occurring in English Documents, 1066–1166. 1. Domesday Book* (Woodbridge, 1999)

Keene, D., 'London from the Post-Roman Period to 1300', in D. M. Palliser (ed.), *The Cambridge Urban History of Britain: 600–1540*, vol. 1 (Cambridge, 2000), 187–216

Keene, D., 'Text, Visualisation and Politics: London, 1150–1250', *TRHS*, 6th ser., 18 (2008), 69–99

Kelleher, R. and Leins, I., 'Roman, Medieval and Later Coins from the Vintry, City of London', *NC*, 168 (2008), 167–240

Kermode, J., 'Northern Towns', in D. M. Palliser (ed.), *The Cambridge Urban History of Britain: 600–1540*, vol. 1 (Cambridge, 2000), 657–79

Keynes, S., 'Alms', in M. Lapidge, J. Blair, S. Keynes and D. Scragg (eds.), *The Blackwell Encyclopaedia of Anglo-Saxon England* (Oxford, 1999), 31

Keynes, S., 'An Interpretation of the *Pacx*, *Pax*, and *Paxs* Pennies', *ASE*, 7 (1978), 165–73

Keynes, S. and Love, R., 'Earl Godwine's Ship', *ASE*, 38 (2009), 185–223

Knowles, D., *The Monastic Order in England* (Cambridge, 1949)

Langdon, J., *Horses, Oxen and Technological Innovation: The Use of Draught Animal in English Farming from 1066 to 1500* (Cambridge, 1986)

Lapidge, M., Blair, J., Keynes, S. and Scragg, D. (eds.), *The Blackwell Encyclopaedia of Anglo-Saxon England* (Oxford, 1999)

Larson, L. M., *The King's Household in England before the Norman Conquest* (Madison, 1904)

Latimer, P. 'The Quantity of Money in England 1180–1247: a model', *Journal of European Economic History*, 637–59

Latimer, P., 'The English Inflation of 1180–1220 Reconsidered', *Past and Present*, 171 (2001) 3–29

Lawson, M. K., '"Those Stories Look True": Levels of Taxation in the Reigns of Æthelred II and Cnut', *EHR*, 104 (1989), 385–406

Lawson, M. K., 'Danegeld and Heregeld Once More', *EHR*, 105 (1990), 951–61

Lawson, M. K., 'The Collection of the Danegeld and Heregeld in the Reigns of Æthelred II and Cnut', *EHR,* 94 (1984), 721–38

Le Goff, J., *Money and the Middle Ages: an Essay in Historical Anthropology* (Cambridge, 2012)

Le Patourel, J., *The Norman Empire* (Oxford, 1976)

Leighton, A. C, *Transport and Communication in Early Medieval Europe: AD 500–1100* (Newton Abbot, 1972)

Lennard, R. V., *Rural England: 1086–1135* (Oxford, 1959)

Lessen, M., 'A parcel of mid-eleventh century Saxon coins, mostly of the York mint', *NCirc*, 115 (2007), 310

Lessen, M., 'A Presumed "Hampshire" Hoard of Eadgar CC Coins', *NCirc*, 111 (2003), 61–62

Loyn, H., 'Peter's Pence', *Society and Peoples: Studies in the History of England and Wales, c. 600–1200* (London, 1992), 241–58

Loyn, H. R., 'The Hundred in England in the Tenth and Early Eleventh Centuries', in H. Hearder and H. R. Loyn (eds.), *British Government and Administration: Studies Presented to S. B. Chrimes* (Cardiff, 1974), 1–15

Lyon, C. S. S., 'Analysis of the Material', in H. R. Mossop, *The Lincoln Mint, c. 870–1279* (Newcastle, 1970), 11–19

Lyon, C. S. S., 'Comments on Pamela Nightingale, "English Medieval Weight-Standards Revisited"', *BNJ,* 78 (2008), 194–99

Lyon, C. S. S., 'Historical Problems of Anglo-Saxon Coinage–(3) Denominations and Weights', *BNJ,* 38 (1969), 204–22

Lyon, C. S. S., 'Historical Problems of the Anglo-Saxon Coinage–(4) The Viking Age', *BNJ*, 39 (1970), 193–203

Lyon, C. S. S., 'Some Problems in Interpreting Anglo-Saxon Coinage', *ASE*, 5 (1976), 173–224

Lyon, C. S. S., 'Variations in Currency in Late Anglo-Saxon England', in R. A. G. Carson (ed.), *Mints, Dies and Currency: Essays Dedicated to the Memory of Albert Baldwin* (London, 1971), 101–20

Lyon, S., 'Minting in Winchester: an Introduction and Statistical Analysis', in M. Biddle (ed.), *The Winchester Mint: and Coins and Related Finds from the Excavations of 1961–71* (Oxford, 2012), 3–55

Lyon, S., 'Silver Weight and Minted Weight in England *c.* 1000–1320, with a Discussion of Domesday Terminology, Edwardian Farthings and the Origin of English Troy', in *BNJ,* 76 (2006), 227–241

Lyon, S., 'The 'Expanding Cross' type of Edward the Confessor and the Appledore (1997) hoard', *NCirc*, 106, no. 10 (1998), 426–28

Maddicott, J. R., 'London and Droitwich. *c.* 650–750: Trade, Industry and the Rise of Mercia', *ASE*, 34 (2005), 7–58

Maddicott, J. R., *The Origins of the English Parliament, 924–1327* (Oxford, 2010)

Maitland, F. W., *Domesday Book and Beyond: Three Essays in the Early History of England* (Cambridge, 1897)

Maitland, F. W., 'The Criminal Liability of the Hundred' in H. A. L. Fisher (ed.), *The Collected Papers of Frederick William Maitland*, 3 vols. (Cambridge, 1911), i, 230–46

Marsden A. and Williams, G., 'Carleton Rode, Norfolk, 2004', *NC*, 167 (2007), no. 60.

Mayhew, N. J., 'Coinage and Money in England, 1086–*c.* 1500', in D. Wood (ed.), *Medieval Money Matters* (Oxford, 2004), 72–86

Mayhew, N. J. (ed.), *Edwardian Monetary Affairs 1279–1344*, British Archaeological Reports, 36 (Oxford, 1977)

Mayhew, N. J., 'Modelling Medieval Monetisation', in R. H. Britnell and B. M. S. Campbell (eds.), *A Commercialising Economy: England 1086–1300* (Manchester, 1995), 55–77

Mayhew, N. J., 'Prices in England, 1170–1750', *P&P*, 219, 1 (2013), 3–39

McCarthy M. R. and Brooks, C. M., *Medieval Pottery in Britain, AD 900–1600* (Leicester, 1988)

McDonald, J., and Snooks, G. D., *Domesday Economy: A New Approach to Anglo-Norman History* (Oxford, 1986)

McGee, H., *McGee on Food and Cooking: an Encyclopaedia of Kitchen Science, History and Culture* (London, 2004)

Metcalf, D. M., 'A Survey of Numismatic Research into the Pennies of the First Three Edwards (1279–1344) and their Continental Imitations', in N. J. Mayhew (ed.), *Edwardian Monetary Affairs 1279–1344*, British Archaeological Reports, 36 (Oxford, 1977), 1–31

Metcalf, D. M., 'Can We Believe the Very Large Figure of £72,000 for the Geld Levied by Cnut in 1018?', in K. Jonsson (ed.), *Studies in Late-Anglo-Saxon Coinage: In Memory of Bror Emil Hildebrand*, Svenska Numismatiska Meddelanden, 35 (Stockholm, 1990), 165–76

Metcalf, D. M., 'Continuity and Change in English Monetary History *c.* 973–1086', *BNJ*, 50 (1980), i, 20–49 and *BNJ*, 51 (1981), ii, 52–90

Metcalf, D. M., 'Find-records of medieval coins from Gough's Camden's Britannia', *NC*, 17 (1957), 181–207

Metcalf, D. M., 'How large was the Anglo-Saxon Currency', *EcHR*, 18 (1965), 475–82

Metcalf, D. M., 'Inflows of Anglo-Saxon and German Coins into the Northern Lands *c.* 997–1024: Discerning the Patterns', in B. Cook and G. Williams (eds.), *Coinage and History in the North Sea World c. 500–1200* (Brill, 2006), 349–88

Metcalf, D. M., 'Monetary Circulation in the Danelaw, 973–1083', in S. Keynes and A. P. Smyth (eds.), *Anglo-Saxons: Studies Presented to Cyril Hart* (Dublin, 2006), 159–85

Metcalf, D. M., 'The monetary history of the tenth century viewed in the perspective of the eleventh century', in M. A. S. Blackburn (ed.), *Anglo-Saxon Monetary History: Essays in Memory of Michael Dolley* (Leicester, 1986), 133–55

Metcalf, D. M., 'The Ranking of the Boroughs: Numismatic Evidence from the Reign of Æthelred II', in D. Hill (ed.), *Ethelred the Unready: Papers from the Millenary Conference*, British Archaeological Reports, 59 (Oxford, 1978), 159–212

Metcalf, D. M., 'The Taxation of the Moneyers Under Edward the Confessor', in J. C. Holt (ed.), *Domesday Studies* (Woodbridge, 1987), 279–93

Metcalf, D. M., *An Atlas of Anglo-Saxon and Norman Coin Finds, c. 973–1086* (London, 1998)

Miller, E., and Hatcher, J., *Medieval England, Rural Society and Economic Change: 1086–1300* (London, 1978)

Moesgaard, J. C., 'La monnaie au temps de Guillaume le Conquérant', in *La Tapisserie de Bayeux: Une Chronique des temps Vikings?* (Bonsecours, 2009), 89–99

Moesgaard, J. C., 'The Import of English Coins to the Northern Lands: some remarks on coin circulation in the Viking Age based on new evidence from Denmark', in B. Cook and G. Williams (eds.), *Coinage and History in the North Sea World c. 500–1200* (Brill, 2006), 389–433

Moesgaard, J. C., 'Two Finds from Normandy of English Coins of the Norman Kings (1066–1154)', *NC*, 154 (1994), 209–13

Mossop, H. R., *The Lincoln Mint, c. 870–1279* (Newcastle, 1970)

Musset, L., *The Bayeux Tapestry* (Woodbridge, 2005)

Naismith, R., *Money and Power in Anglo-Saxon England: The Southern English Kingdoms, 757–865* (Cambridge, 2012)

Naismith, R., 'Payments for Land and Privilege in Anglo-Saxon England', *ASE*, 41 (2012), (forthcoming)

Naismith, R., 'The English Monetary Economy, *c.* 973–1100: the Contribution of Single-Finds', *EcHR*, 66 (2013), 198–225

Neale, F., 'The Relevance of the Axbridge Chronicle' in P. Rahtz, *The Saxon and Medieval Palaces at Cheddar, Excavations 1960–62* (Oxford, 1979), 10–12

Neilson, N., *Customary Rents*, in Oxford Studies in Social and Legal History, ed. P. Vinogradoff, vol. 2 (Oxford, 1910)

Nightingale, P., *A Medieval Mercantile Community: The Grocers' Company and the Politics and Trade of London, 1000–1485* (Yale, 1995)

Nightingale, P., 'English Medieval Weight-Standards Revisited', *BNJ*, 78 (2008), 177–93

Nightingale, P., 'London and the Pepperers' Trade in the Tenth and Eleventh Centuries', in P. Nightingale, *A Medieval Mercantile Community: The Grocers' Company and the Politics and Trade of London 1000–1485* (Yale, 1995), 6–22

Nightingale, P., 'Moneyers and Merchants', in P. Nightingale, *A Medieval Mercantile Community: The Grocers' Company and the Politics and Trade of London, 1000–1485* (Yale, 1995), 23–42

Nightingale, P., 'The Evolution of the Weight Standards and the Creation of New Monetary and Commercial Links in Northern Europe from the Tenth Century to the Twelfth Century', *EcHR*, 38 (1985), 192–209

Nightingale, P., 'The Ora, the Mark and the Mancus', *NC*, 153 (1983), i, 248–57

Nightingale, P., 'The Ora, the Mark and the Mancus', *NC,* 144 (1984), ii, 234–48

O'Brien, B. R., 'From *Morðor* to *Murdrum*: The Preconquest Origin and Norman Revival of the Murder Fine', *Speculum*, 71 (1996), 321–57

Owen-Crocker, G. R., 'Hawks and Horse-trappings: the Insignia of Rank', in D. Scragg (ed.), *The Battle of Maldon AD 991* (Oxford, 1991), 220–37

Pagan, H., 'A Cnut hoard from Cornwall', *NCirc*, 95 (1987), 39

Pagan, H., 'The Castor hoard of mid-eleventh-century pence', *BNJ*, 54 (1984), 289–90

Pagan, H., 'The coinage of Harold II', in K. Jonsson (ed.), *Studies in Late-Anglo-Saxon Coinage: In Memory of Bror Emil Hildebrand*, Svenska Numismatiska Meddelanden, 35 (Stockholm, 1990), 177–205

Pagan, H., 'The *Pacx* type of Edward the Confessor', *BNJ*, 81 (2011), 9–106

Palliser, D. M., 'Domesday Book and the 'Harrying of the North'', *Northern History*, 29 (1993), 1–23

Palliser, D. M. (ed.), *The Cambridge Urban History of Britain: 600–1540*, vol. 1 (Cambridge, 2000)

Palliser, D. M., Slater, T. R. and Patricia Dennison, E., 'The Topography of Towns 600–1300', in D. M. Palliser (ed.), *The Cambridge Urban History of Britain: 600–1540*, vol. 1 (Cambridge, 2000), 153–86

Palmer, J. J. N., 'The Domesday Manor', in J. C. Holt (ed.), *Domesday Studies* (Woodbridge, 1987), 139–53

Palmer, J., 'War and Domesday Waste', in M. Strickland (ed.), *Armies, Chivalry and Warfare in Medieval Britain and France* (Stamford, 1998), 256–75

Pelteret, D. A. E., *Slavery in Early Medieval England: from the Reign of Alfred until the Twelfth Century* (Woodbridge, 1995)

Petersson, H. B. A., 'Coins and Weights: Late Anglo-Saxon Pennies and Mints *c.* 973–1066', in K. Jonsson (ed.), *Studies in Late-Anglo-Saxon Coinage: In Memory of Bror Emil Hildebrand*, Svenska Numismatiska Meddelanden, 35 (Stockholm, 1990), 207–433

Petersson, H. B. A., *Anglo-Saxon Currency: King Edgar's Reform to the Norman Conquest* (Lund, 1969)

Phillips, M., Freeman, E. and Woodhead, P., 'The Pimprez Hoard', *NC*, 171 (2001), 261–346

Pirie, E. J. E., *Post-Roman Coins from York Excavations, 1971–81* (London, 1981)

Pirie, E. with Archibald, M., 'Post-Roman coins', in D. Phillips and B. Heywood, *Excavations at York Minster. Volume 1. From Roman Fortress to Norman Cathedral. Part 2. The finds*, ed. M. O. H. Carver (London: HMSO, 1995), 527–30

Pirie, E., *Coins in Yorkshire collections. The Yorkshire Museum York. The City Museum, Leeds. The University of Leeds. SCBI*, 21 (London, 1975)

Platt, C., *Medieval Southampton: The Port and Trading Community, A.D. 1000–1600* (London, 1973)

Pollock, F. and Maitland, F. W., *The History of English Law Before the Time of Edward I*, 2 vols. (Cambridge, 1911)

Pons Sanz, S. M., *Norse-Derived Vocabulary in late Old English Texts: Wulfstan's Works, a Case Study* (Odense, 2007)

Poole, A. L., *From Domesday Book to Magna Carta* (Oxford, 1955)

Poole, H., 'An Important Coin Finds in Whippendell Woods, Watford', *Hertfordshire's Past*, 15 (Autumn, 1983), 27–29

Prummel, W., *Excavations at Dorestad 2: Early Medieval Dorestad. An Archaeozoological Study* (Amersfoort, 1983)

Rackham, O., 'Forest and Upland', in J. Crick and E. Van Houts (eds.), *A Social History of England, 900–1200* (Cambridge, 2011), 46–55

Raftis, J. A., *The Estates of Ramsey Abbey: A Study in Economic Growth and Organisation* (Toronto, 1957)

Rigold, S. E., 'Small Change in the Light of Medieval Site-Finds', in N. J. Mayhew (ed.), *Edwardian Monetary Affairs, 1279–1344*, British Archaeological Reports (Oxford, 1977), 59–80

Roberts, B. K with Barnwell, P. S., 'The Multiple Estate of Glanvill Jones: Epitome, Critique, and Context', in P. S. Barnwell and B. K. Roberts (eds.), *Britons, Saxons and Scandinavians: The Historical Geography of Glanvill R. J. Jones* (Turnhout, 2012), 25–128

Robbins, K. J., 'From Past to Present: Understanding the Impact of Sampling Bias on the Distribution of Finds Recorded by the Portable Antiquities Scheme', (University of Southampton Ph.D thesis, 2012)

Robbins, K. J., 'Balancing the Scales: Exploring the Variable Effects of Collection Bias on Data Collected by the Portable Antiquities Scheme', *Landscapes*, 14 (2013), 54–72

Robertson, E. W., *Historical Essays in Connexion with the Land, the Church etc.* (Edinburgh, 1872)

Robinson, P. H., 'The Stafford (1800) and Oulton (1795) hoards', *BNJ*, 38 (1969) 22–30

Roffe, D., 'Domesday Book and Northern Society: a Reassessment', *EHR*, 105 (1990), 310–36

Rosser, G., 'The Anglo-Saxon Gilds', in J. Blair (ed.), *Minsters and Parish Churches: the Local Church in Transition, 950–1200* (Oxford, 1988), 31–34

Rothwell, W. (ed.), *Anglo–Norman Dictionary, Fascicle 6: R–S* (London, 1990)

Round, J. H., 'Introduction to the Hertfordshire Domesday', in W. Page (ed.), *The Victoria History of the County of Hertford*, 4 vols. (London, 1902), i, 263–99

Round, J. H., 'The Burton Abbey Surveys', in *Collections for a History of Staffordshire*, William Salt Archaeological Society (1906), 269–89

Round, J. H., 'The *Tertius Denarius* of the Borough', *EHR*, 34 (1919), 62–64

Sawyer, B. and P. H., *Medieval Scandinavia: From Conversion to Reformation, c. 800–1500* (Minneapolis, 1993), 153–59

Sawyer, P. H., 'Anglo-Scandinavian Trade in the Viking Age and After', in M. A. S. Blackburn (ed.), *Anglo-Saxon Monetary History: Essays in Memory of Michael Dolley* (Leicester, 1986), 185–99

Sawyer, P. H., 'Review of Darby and Maxwell (1962) and Darby and Campbell, *The Domesday Geography of South-East England* (1962)', *EcHR*, 16 (1963), 155–57

Sawyer, P. H., *The Wealth of Anglo-Saxon England* (Oxford, 2013)

Sawyer, P. H., 'The Wealth of England in the Eleventh Century', *TRHS*, 15 (1965), 145–64

Screen, E., 'Anglo-Saxon Law and Numismatics: A Reassessment in the Light of Patrick Wormald's *The Making of English Law*', *BNJ*, 77 (2007), 150–72

Seaby, P. J., 'Henry I coin types: design characteristics and chronology', *Yorkshire Numismatist*, 1 (1988), 27–43

Seaby, P., 'The Sequence of Anglo-Saxon Coin Types, 1030–50', *BNJ*, 28 (1955–57), 111–4

Seebohm, M. E., *The Evolution of the English Farm* (London, 1952)

Senecal, C., 'Keeping Up with the Godwinesons: In Pursuit of Aristocratic Status in Late Anglo-Saxon England', *ANS*, 23 (2000), 251–66

Simpson, J. A. and Weiner, E. S. C., *The Oxford English Dictionary, vol. xiv: Rob–Sequyle* (Oxford, 1989)

Smirke, E., 'Ancient Consuetudinary of the City of Winchester', *The Archaeologcal Journal*, 9 (1852), 69–89

Snooks, G. D., 'The Dynamic Role of the Market in the Anglo-Norman Economy and Beyond, 1086–1300', in R. H. Britnell and B. M. S. Campbell (eds.), *A Commercialising Economy: England 1086–1300* (Manchester, 1995), 27–54

Spufford, P., 'Some hoard evidence from a nineteenth-century collection', *BNJ*, 30 (1960–1), 213–16

Spufford, P., *Money and Its Uses in Medieval Europe* (Cambridge, 1988)

Stafford, P., 'Historical Implications of the Regional Production of Dies under Æthelred II', *BNJ*, 48 (1978), 35–51

Stenton, F. M., *Anglo-Saxon England* (Oxford, 1971)

Stenton, F. M., *The Danes in England* (London, 1927)

Stewart, I., 'Coinage and Recoinage after Edgar's Reform', in K. Jonsson (ed.), *Studies in Late-Anglo-Saxon Coinage: In Memory of Bror Emil Hildebrand*, *Svenska Numismatiska Meddelanden*, 35 (Stockholm, 1990), 455–85

Stewart, I., 'The English and Norman Mints, *c.* 600–1158', in C. Challis (ed.), *A New History of the Royal Mint* (Cambridge, 1992), 1–82

Stott, P., 'Saxon and Norman coins from London', in A. Vince (ed.), *Aspects of Saxo-Norman London: 2. Finds and Environmental Evidence* (London: London and Middlesex Archaeological Society, 1991), 279–325

Sutherland, C. H. V., *English Coinage, 600–1900* (London, 1973)

Thirsk, J., 'The Common Fields', *P&P*, 29 (1964), 3–25

Thompson, J. D. A., *Inventory of British Coin Hoards, A.D. 600–1500* (Oxford, 1956)

Titow, J. Z., *English Rural Society, 1200–1350* (London, 1969)

Vince, A. (ed.), *Aspects of Saxo-Norman London: 2. Finds and Environmental Evidence* (London: London and Middlesex Archaeological Society, 1991)

Vince A. and Jenner A., 'The Saxon and Early Medieval Pottery of London', in A. Vince (ed.), *Aspects of Saxo-Norman London: 2. Finds and Environmental Evidence* (London: London and Middlesex Archaeological Society, 1991), 19–119

Vinogradoff, P., *English Society in the Eleventh Century* (Oxford, 1908)

von Feilitzen, O., 'The Personal Names and Bynames of the Winton Domesday', in M. Biddle (ed.), *Winchester in the Early Middle Ages: An Edition and Discussion of the Winton Domesday*, Winchester Studies 1 (Oxford, 1976), 145–226

Walker, J., 'National Income in Domesday England', *EcHR* (forthcoming)

Warhurst, M., *Merseyside County Museums. Ancient British issues and later coins from English, Irish and Scottish mints to 1279, with associated foreign coins*, *SCBI*, 29 (London, 1982)

Warren Hollister, C., *Anglo-Saxon Military Institutions on the Eve of the Norman Conquest* (London, 1962)

Welldon Finn, R., *Domesday Studies: the Eastern Counties* (London, 1967)

Welldon Finn, R., *Domesday Studies: the Liber Exoniensis* (London, 1964)

Welldon Finn, R., *The Norman Conquest and its Effects on the Economy: 1066–86* (London, 1971)

Whitelock, D., *The Beginnings of English Society* (Harmondsworth, 1952)

Willan, T. S., *The Inland Trade* (Manchester, 1976)

Williams, A., 'Dorset Geld Rolls', in R. B. Pugh (ed.), *The Victoria History of the County of Dorset*, 2 vols. (London, 1968), 115–23

Williams, A., (ed.), *Domesday Book: Studies,* Alecto Historical Editions (London, 1987)

Williams, A., *Kingship and Government in Pre-Conquest England c. 500–1066* (Basingstoke, 1999)

Williams, A., *The World Before Domesday: The English Aristocracy, 900–1066* (London, 2008)

Williams, G. and Ager, B., 'Vale of York, North Yorkshire', *PATAR* (2007), no. 217

Williams, G. and Ager, B. M., 'Vale of York, North Yorkshire 2007', *NC*, 169 (2009), no. 64

Williams, G., 'A Hoard of Æthered II 'Long Cross' Pennies from Bramdean Common, Hampshire', *BNJ*, 68 (1998), 143–44

Williams, G., 'A hoard of 'Expanding Cross' pennies from Appledore: preliminary report', *NCirc*, 106, no. 4 (1998), 152–53

Williams, G., 'Appledore, Kent, 1997', *NC*, 158 (1998), no. 39

Williams, G., 'Appledore, Kent, 1998', *NC*, 159 (1999), no. 44

Williams, G., 'Bramdean Common, Hampshire, 1997', *NC*, 159 (1999), no. 40.

Williams, G. 'Hargrave, Cheshire, 1997', *NC*, 159 (1999), no. 41

Williams, G., 'Holbeck, Nottinghamshire', *PATAR* (2008), no. 586

Williams, G., 'Kingship, Christianity and Coinage: Monetary and Political Perspectives on Silver Economy in the Viking Age', in J. Graham-Campbell and G. Williams (eds.), *Silver Economy in the Viking Age* (Walnut Creek, 2007), 177–214

Williams, G., 'Knaresborough area, North Yorkshire, 2008–9', *NC*, 170 (2010), no. 61

Williams, G., 'Maltby Springs, 1999', *NC*, 160 (2000), no. 45.

Williams, G., 'Military and Non-Military Functions of the Anglo-Saxon Burh, *c.* 878–978', in J. Baker, S. Brookes, and A. Reynolds (eds.), *Landscapes of Defence in Early Medieval Europe,* Studies in the Early Middle Ages, 28 (Turnhout, 2013), 129–63

Williams G., 'Monetary Contacts Between England and Normandy, *c.* 973–1180: A Numismatic Perspective', in J. Chameroy and P-M Guihard (eds.), *Circulations Monétaires et Réseaux D'échanges en Normandie et dans le Nord-Ouest Européen (Antiquité–Moyen Age* (Caen, 2012), 251–62

Williams, G., 'Near Woodbridge, Suffolk, 1996', *NC*, 159 (1999), no. 39

Williams, G., 'Raithby, near Spilsby, Lincolnshire', *TAR* (2002), no. 216

Williams, G., 'Stalbridge, Dorset', *TAR* (2005–6), no. 1167

Williams, G., 'Up Marden, West Sussex, 2006', *NC*, 170 (2010), no. 60

Williams, G., 'Wymondham, Norfolk 2007', *NC*, 169 (2009), no. 66

Wood, D. (ed.), *Medieval Money Matters* (Oxford, 2004)

Wormald, P., *The Making of English Law: King Alfred to the Twelfth Century. Volume 1: Legislation and its Limits* (Oxford, 1999)

Zupko, R., *A Dictionary of Weights and Measures for the British Isles: The Middle Ages to the Twentieth Century* (Philadelphia, 1985)

**Secondary sources with no given author**

*Christie's Sale Catalogue*, 13 October 1992, lot 3

*Coin Hoards*, 1 (1975), no. 359

*Coin Hoards*, 5 (1979), no. 278

*The 'Beauvais' Hoard of Anglo-Norman Pennies, English and Foreign Coins*, Glendining's Sale Catalogue, 4th November 1987

**Internet sources**

http://bosworthtoller.com/ - an online Old English dictionary

http://gridreferencefinder.com/# - to obtain eastings and northings for ArcMap

http://www.dmgh.de/ - an online version of the *Monumenta Germaniae Historica*

http://www.finds.org.uk/ - the website of the Portable Antiquities Scheme

http://www2.warwick.ac.uk/fac/soc/economics/staff/academic/broadberry/wp/britishgdplongrun8.pdf - online repository for the article by S. Broadberry, B. Campbell, A. Klein, M. Overton and B. van Leeuwen, entitled: 'British Economic Growth, 1270–1870'.

http://www.unc.edu/~rowlett/units/scales/bushels.html - online version of R. Rowlett, 'How Many? A Dictionary of Units of Measurement', (University of North Carolina, 2005). Page relates to bushel weights per commodity

http://www-cm.fitzmuseum.cam.ac.uk/emc/ - the website of the Fitzwilliam Museum's Early Medieval Corpus of single coin finds

https://hydra.hull.ac.uk/ - online repository for the Domesday Explorer datasets